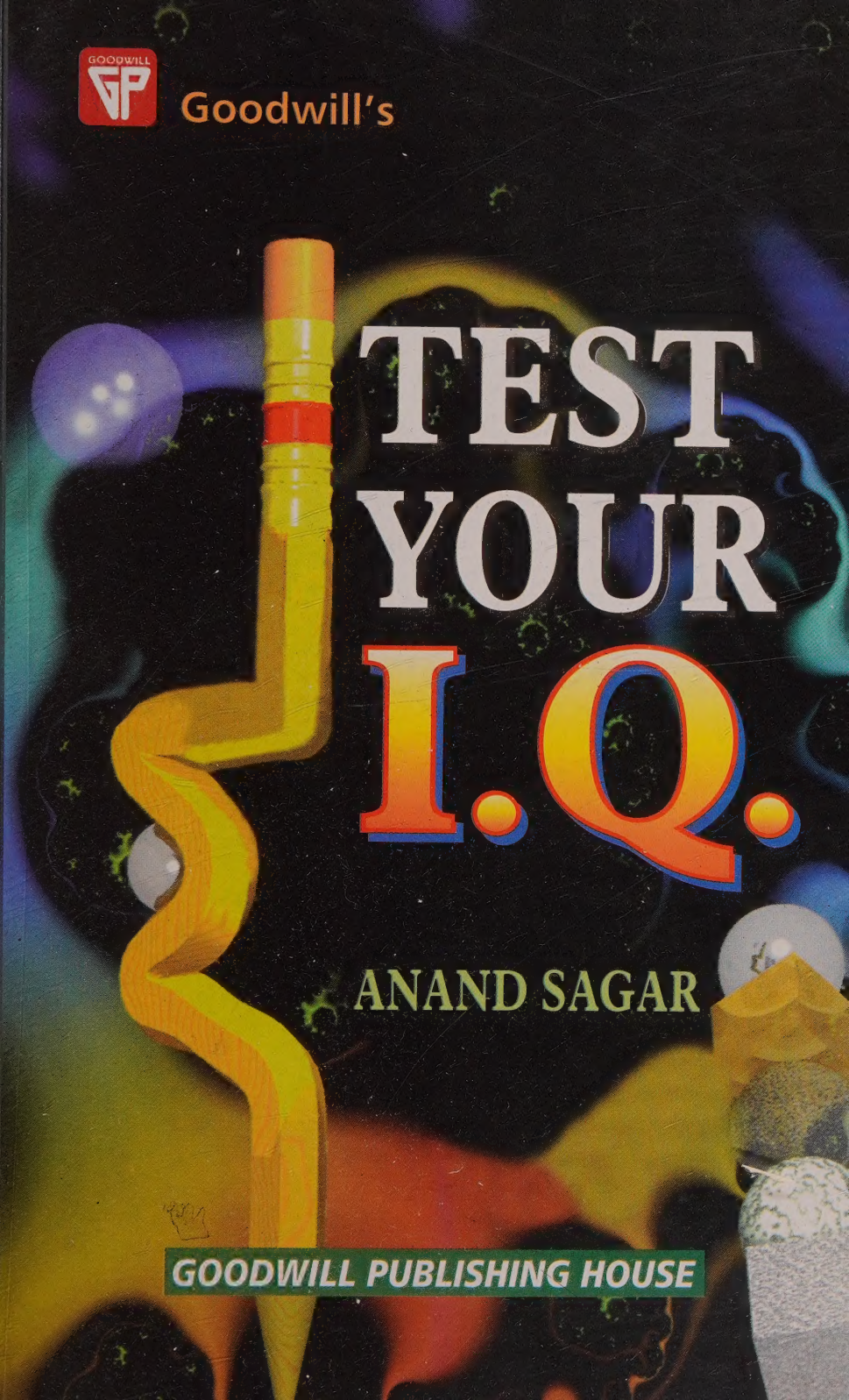

GOODWILL
GP
Goodwill's
TEST YOUR I.Q.
ANAND SAGAR
GOODWILL PUBLISHING HOUSE

TEST YOUR I.Q.

Goodwill's

TEST YOUR I.Q.

By

ANAND SAGAR

GOODWILL PUBLISHING HOUSE
B-3, RATTAN JYOTI, 18, RAJENDRA PLACE
NEW DELHI-110008 (INDIA)

Published by
Rajneesh Chowdhry
for
Goodwill Publishing House
B-3, Rattan Jyoti
18, Rajendra Place
New Delhi-110008
Tel. : 5750801, 5755519
Fax : 91-11-5763428

© Publisher

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the publisher.

Price : **Rs. 75/-**

Typeset at
Radha Laserkraft
R-814, New Rajinder Nagar
New Delhi-110060 • Tel. : 5730031

Printed at Kumar Offset Printers, Delhi-31

Preface

Intelligence has been defined as the mental and physical ability of a person to respond instantly and correctly through deliberative and reflex reactions to different situations.

While basic intelligence is inborn or inherited, modern psychologists hold the view that it can be very well developed and augmented by the right kind of influences brought to bear through environment, education, training and other aids.

The First Part of this book is devoted to the theory of intelligence, its definition, components, processes, etc. The first few chapters describe the systematic way to gain insight into one's intelligence, discover it and measure its quotient. Then a few chapters describe the practical ways in which intelligence can be assimilated on one's personality, developed and augmented through educational processes, and tamed to achieve smooth understanding of the puzzles and problems of day-to-day life.

The Second Part of the book is devoted to intelligence Testing from the examination point of view. It describes the different types of tests devised by educationists and examiners to test your I.Q.

Model Questions have been set for each faculty of human intelligence. General Ability, Comprehension, Visual Observation, Analogy, Coding and Decoding, Matching and Relationship, Language Proficiency, Numerical Aptitude, etc.

The style of Questions is the same as set in different examinations like the Combined Defence Services, National Defence Academy, Banking Probationary officers, Civil Services (Preliminary), Bank Recruitment, Air Force, Air India, Indian Airlines, Life Insurance, Clerical Grade, etc.

It is hoped the book will prove useful for the above mentioned examinations.

AUTHOR

Contents

1.	**Theory of Intelligence**	**1—9**
	Introduction	1
	Can Intelligence be Augmented ? Yes	3
	Discriminative and Directive Intelligence	4
	The Concept of Inborn Abilities	5
	Conceptual Curve—Agewise	5
	Role of Genetic Factors	6
	U.S. Survey of National Resources of Intelligence	7
	The Brain Cortex and Intelligence Nerves	8
2.	**Components of Intelligence**	**10—17**
	Memory and Constructed Images	10
	Individual Differences in Imagery	10
	Difficulties due to Differences in Imagery	11
	The Value of Imagery in Education	11
	Problem Solving and Reasoning	13
	Thinking and Feeling	14
	Learning Process	15
	Cognitive Strategies of Intelligence	16
3.	**Intelligence Quotient**	**18—27**
	Measurement of IQ	18
	How to Find Your IQ	19
	Earliest Types of Test	21
	Performance Tests	23
	Guidlines for Tests	25
	Guidelines for Examinees	25
	Reasoning Tests	26
	Concentration Tests	27
4.	**Methods of Measurement of Intelligence**	**28—34**
	Binet's Method	28
	Eysenck's Method	28

Spearman's Three Abilities 29
Burt's Verbal, Numerical and Practical Group Abilities 30
Intelligence Tests—A Hisorical Perspective 30
Binet-Simon Scales of Intelligence Testing 31
Individual Tests of Intelligence or Reasoning 31
The Mental Age-Determination Classified 32
The Stanford Revision of the Binet Scale of Intelligence 32
Criticism of Intelligence Testing Scales 33
Wechsler-Bellevue Intelligence Tests for Adults 34

5. Why and How of Objective Type Testing 35—49

Objective Type Testing 35
Advantages of Objective Examinations 37
Disadvantages of Objective Examinations 37
Educational Objectives of Objective Testing 38
Individual Intelligence Tests 39
Group Tests of Intelligence or Reasoning 39
Classification of Group Tests (Verbal) 39
Non-Verbal Tests of Intelligence or Reasoning 41
Classification of Non-verbal Tests 41
The Construction and Standardisaton of Psychological Tests 42
Characteristics of Psychological Tests 42
Gaussian Curve of Averages 43
Mental Age (M.A.) 43
Criticism of Interlligence Tests 44
Validity of Intelligence Tests 46
Uses of Intelligence Tests 47
Intelligence and Attainment 48
The Relative Contribution of Heredity and Environent to Intellectual Growth 48
Assessment of Self-Concepts 49

6.	**Measurement of Personality Traits Theory and Self-Appraisal**	**50—70**
	Personality Inventory	50
	Miscellaneous Factors in Personality Building	57
	Guilford's Main Personality Factors	65
	Cattell's Main Personality Factors	66
7.	**Measurement of Memory**	**71—75**
	The Process of Memory	71
	Logical Memory Dependent upon General Intelligence	71
	Training the Memory	73
8.	**General Ability Tests**	**76—94**
9.	**Comprehension and Thought Type Questions**	**95—105**
10.	**Visual Observation Tests**	**106—114**
11.	**Analogy Tests**	**115—129**
12.	**Coding and Decoding Tests**	**130—137**
13.	**Matching and Relationship Tests**	**138—157**
14.	**Language Proficiency Tests**	**158—176**
15.	**Numerical Aptitude Tests**	**177—197**

CHAPTER 1

Theory of Intelligence

INTRODUCTION

Intelligence has been defined as :

(*i*) "the ability to see the relationships between things", and

(*ii*) "the ability to profit from experience".

Psychologists have now reached a measure of agreement that a good working definition of intelligence (although not necessarily a complete one) is :

(*i*) The ability to see relevant relationships between objects or ideas; and

(*ii*) The ability to apply these relationships to new but similar situations.

In order to work out an arithmetical problem, say, the pupil has to grasp the relationships between the date presented, and then deduce something new to reach an answer which bears the correct relationship to the data. But if he is asked to multiply 147 by 18 no new relationships are involved. Hence the problem is more dependent upon intelligence than upon the mechanical exercise. Moreover, if we define and measure intelligence in this way, there is no doubt that intelligence is largely involved in academic aptitude and general all around ability at work. Some psychologists discount the influence of learning, since "intelligence" according to them refers to innate ability — the capacity to learn rather than learning itself.

However, new facts have been discovered about intelligence. Further research can reveal more. But existing conclusions are :

(*i*) Men and women do not differ in average intelligence.

(*ii*) Different races do not vary in average intelligence.

(*iii*) Delinquents are more often of lower intelligence than others.

(*iv*) Basic intelligence is inborn, and does not increase after the age of 20 or so.

Intelligence means a child's ability to understand or learn anything. A child is commonly inquisitive, at times eager to ask questions which cannot be replied by his teachers, for example :

"What is this ?"

"It is a river."

"Why is it there ?"

"Every question has no reply."

Intelligence also means an individual's ability to cope with a new situation. Every situation for all of us is a new situation, which, on recurrence, become an old situation, for the way is by then known how it was solved the first time.

Psychological characteristics of any particular person are customarily described by distinguishing between two main aspects of mental life, "intellectual" and "emotional".

(*i*) Intellectual characteristics guide or direct the person's activities towards their conscious or unconscious goals.

(*ii*) Emotional characteristics are those that are assumed to supply the energy or driving force for the person's actual behaviour.

The latter can be described as the "motivational" components, and the former as the "directional" components. Later writers introduced a cross classification and had to seek to distinguish those characteristics that are (1) inherited or inborn from (2) those that are acquired, or developed out of the inborn tendencies as a result of personal experience.

Temperament : It designates those general motivational characteristics that are inborn, and

Character : It designates those that are acquired.

The sum total of these various traits, the directional and motivational, the inborn and the acquired, integrated into one unique and distinctive whole, is termed "Personality".

Some psychologists distinguish three main aspects of personality.

(1) the cognitive,

(2) the effective, and

(3) the connotative.

Then the word "temperament" is commonly restricted to the effective aspect (*i.e.*, the qualities of feeling only) and the word "character" is used to cover the whole of the connotative or moral aspect.

CAN INTELLIGENCE BE AUGMENTED ? YES

Some recent philosophers appear to have given their moral support to the verdict that the intelligence of an individual is a fixed quantity which cannot be augmented. We must protest and act against this brutal pessimism. We shall endeavour to show that it has no foundation whatsoever .... A child's mind is like a field for which an expert farmer has advised a change in the method of cultivation, with the result that in place of desert land we now have a harvest. It is in this particular sense, the only one that is significant, that we say the intelligence of children may be increased. One increases that which constitutes the intelligence of a school child; namely the capacity to learn, to improve with instruction.

Many tests of intelligence make use of clusters of items that attempt to assess different capabilities — some cognitive, some non–cognitive. It is quite possible for two individuals to obtain the same composite score on the whole test and yet have very different patterns of scores on the clusters of test items. The statement below sets out the score patterns of three individuals on a commonly used, individually administered intelligence test, the Wechsler Intelligence Scale for children. The three children scored the same overall total but their patterns of scores were very different. Anyone making an educational recommendation purely on the strength of the overall score might well treat the three pupils in the same way. It is only by examining the patterns of scores that one gets a picture of the various strengths and weaknesses of the different pupils. Tests that do not have the subdivisions do not allow of this approach, and consequently the differential abilities remain obscured.

Pupil scores on a selection of subtests from an intelligence test.

(Pupils all have the same composite score but very different patterns of sub–test scores).

Titles of sub–tests

(*a*) Information
(*b*) Comprehension
(*c*) Vocabulary
(*d*) Block design
(*e*) Object assembly
(*f*) Picture completion

The WISC test, is a test that is administered by a psychologist to a child on an individual basis. When many children are to be tested in schools, recourse is made to group tests of intelligence. These tests resemble the individual tests except that they tend to concentrate on clusters of items that relate particularly to cognitive activities. The same problems apply to these tests as apply to the individual tests; that is, the overall score obscures the constituent differential abilities.

The paradoxical aspect of these tests is that, although their main claim to attention lies in their status as the best all–round predictors of educational learning, we learn more that is pedagogically useful by looking at the sub–test scores, many of which, in the group intelligence tests, resemble tests in traditional school subjects. Provided we keep this fact to the front of our minds when using such tests, they may provide preliminary indicators of a person's current capabilities, but for useful pedagogical information we need to scrutinize the sub–test score patterns and then, for information of a diagnostic nature, we need to employ tests specifically constructed to give us an indication of the pupil's current strengths and weaknesses in the area of study.

DISCRIMINATIVE AND DIRECTIVE INTELLIGENCE

In the scholastic psychology, use of the word intelligence implies a preference for the two fold classification of mental characteristics into discriminative and directive characteristics, called intellectual, and cognitive, as contrasted with effective connotative, called dynamic or orectic characteristics. The word intelligence (*inter–legentsia*) was first introduced by Cicero as an almost literal translation of Aristotle's term *dia–noesis*.

This preference for the two-fold classification was proposed by Aristotle in place of the three-fold scheme earlier favoured by Plato. Thus, the word denoted the abstract quality common to, and also peculiar to, all "intellectual" processes, *viz. sensation, perception, memory, imagination, reasoning* and the like.

In the writings of Herbert Spencer and his successors, Cyril Burt and C.E. Spearman, the word intelligence acquired a standard meaning as a technical term. It has usually been held to imply three basic distinctions :

(1) It connotes a cognitive or intellectual capacity, as distinct from other characteristics of the total personality.

(2) It implies a general quality, that is, it enters into all types of intellectual processes and is not specific to any one type of ability.

(3) It ia an inborn or innate quality, as distinct from abilities acquired through individual experience at home, at school, or elsewhere.

THE CONCEPT OF INBORN ABILITIES

The concept of an inborn, all–round, general ability was derived mainly from introspection, general observation and philosophical speculation or reasoning. The conclusions so reached, therefore, had to be more closely checked and verified by experimentation and statistical analysis.

The method adopted by the leaders in this scientific approach, like Galton, Binet, C. Lloyd, Morgan, E.L. Thorndike and Wolfgang Kohler, involved a combination of experimental testing and statistical analysis. It consisted in observing what mental capacities tended to go together. Such observation led to the theory that there did exist in human beings a single broad mental power, which may be called general intelligence, which is only basic to various special abilities.

If we compare the efficiency of various types of tests, it would appear that intelligence is revealed particularly in good use of verbal symbols, ability to perceive analogies, capacity to abstract and classify mathematical ability, problem solving and other capacities for understanding relations and casual connection, which have been increasingly invoked in experiments on intelligence.

It is erroneously believed by some educators that intelligence is defined by a mere average score on some sort of a combination of sub–tests. The exact weights to be given are actually fixed through intelligence's being uniquely and objectively defined by the simple structure criterion in factor analysis.

CONCEPTUAL CURVE — AGE-WISE

Tests of intelligence, as above defined, reveal the effects of age and of inheritance. For example, there is a rapid augmentation of reasoning and perceptual ability between 3 and 6 years of age, followed by a

flattening of the development curve around 14 years of age. Indeed, there is negligible increase in the basic ability to understand the most general relations. Nevertheless, the individual is able to increase his actual problem-solving capacity by increased knowledge, and thereby can better perceive relations in special fields when given closer acquaintance with the particular problems of those fields.

After the age of about 23, there is actually a slight decline in scope on speeded intelligence tests. But, if reasoning capacity without speed is tested, no such decline occurs until senility. In case fluid and crystallized general abilities are independently measured, the former rises and declines with other biologically determined competencies, as for example, vision and hearing powers. But crystallized ability continues to show a very slight, steady increases after reaching the "plateau" at 16 years.

As held by the common man, there are no significant differences in intelligence between men and women, as between children and grown up men. Moreover, it is not even certain that qualitative differences may not be considered as temporarily cultural effects. On the other hand, there is ample evidence available from comparing the intelligence of identical twins, reared in different homes with that of, for example, unrelated children reared together; the evidence shows that intelligence is largely inherited. Researchers like Burt and others, have presented for the inheritance of differences in intelligence, the correlations and other constants agreeing closely with what would be expected if intelligence, like stature and other graded characters, were transmitted in accordance with the mendelian laws for multifactor inheritance.

ROLE OF GENETIC FACTORS

Based on the soundest and most existensive studies, the usually accepted figures of measurement, employing verbal intelligence tests, assign 75% to 80% of the observed test variation in the general population to genetic factors, and the rest, 20 to 25% environmental, physical and mental conditions and opportunities in home and society. But no experimental designs has been found for reliably assigning to heredity and environment the true fractions of the appreciable differences of average intelligence test scores found among widely different races of humanity.

In a practical sense, tests of intelligence are held valid by the widespread finding that what is called intelligence in social and educational evaluation turns out to be closely identified with what is measured. Thus we find that children, drafted to schools for mental defectives score very low, selective schools average above other schools and universities above high schools. Test scores are predictive of educational success and of occupational success in most, especially complex, occupations.

Even on culture–free intelligence tests, socially there is a slight tendency for higher social class, or complexity of occupation, to be associated with higher intelligence score. This tendency fits the school observation that some trend exists for better mental capacity to segregate to better social status levels. However, in spite, of that, the greatest absolute store-house of high mental capacity is the lower middle class-killed and semi-skilled workers—because it is the largest class in sheer numbers.

It has been shown that less intelligent parents, even in the same social class, tended to produce a larger fraction of the following generation in the first half of the 20th century. For this reason, it is probable that, apart from dominant *genes* and a survival rate favouring the intelligent, a decline occurred in the average intelligence of the masses in industrial countries in the first part of the century.

"A survey, conducted in 1950 in England and in the ensuing decade in the United States, showed that the maximum restriction of family size had passed from the upper to the medium intelligence levels." Furthermore, with the differential marriage, death and sterility rates, favouring survival of fittest, or more intelligent, in all but the most "under-privilaged groups, genetic trends may now be upwards.

U.S. SURVEY OF NATIONAL RESOURCES OF INTELLIGENCE

A Survey in the U.S. has suggested that the national resources, of intelligence for supplying persons fitted for training as higher scientific, administrative and professional workers, are not so great as once had been thought. Of persons with the requisite intelligence and monetary support to obtain, for example, a medical degree, perhaps only one-fifth were found to have the persistence to face continuous study or the temperamental qualities to deal with the emergencies and social demands of such a profession.

The knowledge of resources of intelligence, particularly in regard to manpower for scientific research, led to application of intelligence tests still more widely in industry and education. During years of World War II, their use in selecting for military promotion and specialized training was very extensive.*

Brain operations on animals show that the decline in problem solving capacity, as well as in the ability to learn complex habits, is just about proportional to the weight of the brain removed. Brain injuries in man point to the same relation. Through injury, a particular habit or capacity may be lost and may be relearned, but there tends to be a loss in general power of abstraction and problem-solving roughly proportional to the extent of cortical damage—to the cortex or that fraction of the brain which is not directly concerned with internal bodily adjustments, muscular balance, etc. In the human brain, certain areas appear to be definitely associated with relatively specific bodily functions; as for example, the area at the back of the head with visual perception, others with hearing, touch, smell, etc. others again with voluntary movement.

THE BRAIN CORTEX AND INTELLIGENCE NERVES

Intelligence is associated with somewhat general structural qualities characterizing the brain cortex as a whole. Microscopic studies of the brains of low-grade defectives show that their nerve cells are comparatively few branches, and both the cells and their branches appear to be arranged far more irregularly than those of normal person.

Although nerves can be nourished, no drug that increases intelligence in normal persons is known. Caffeine in coffee produces increased problem-solving ability, largely by improving memory and alertness. Such drugs lead to significant improvements in general intelligence-test performance. On the other hand, 20 grams of alcohol will produce, in the average person, a measurable decline in intelligence, test performance or other forms of judgment. Failure of thyroid secretion produces a considerable decline in intelligence.

---

* "In the U.S. systematic surveys of community intelligence were proposed and pursued by J.B. Wolfie, R.L. Thorndike and others, while in Britain, nation wide systematic guidance of children at 11 + years of age into different educational streams has been facilitated through intelligence tests and on school achievement at the time".

Failures of judgment are rapidly produced by anything that interferes with the supply of oxygen to brain.

Blind trial and error behaviour is the very antithesis of intelligence, which is common in man and animal. The capacity of animals, even of the higher apes, to perceive complex relationships is far below that of adult man, and seldom exceeds the level of a three-year old child. Yet it is of the same nature as the intelligence of man.

In Kohler's classical experiment a chimpanzee, given two hollow sticks, each too short to reach a banana outside the cage, was observed thinking and then fitting one stick into the other to provide a new tool long enough to do the job. Similar switches from random behaviour to "insightful" solutions have been observed experimentally in dogs, and even in hens.

◗ ◗ ◗

CHAPTER 2

Components of Intelligence

In this chapter we will study the various inherent factors that help the intelligence to grow and flourish.

MEMORY AND CONSTRUCTED IMAGES

If we visualise the beach of a town where we spent an enjoyable holiday, or have an auditory image of running water, we are experiencing memory images. But if we make our images out of elements which have their counterparts in our past life and visualise a mermaid, or a city with streets paved with gold, we are experiencing constructed images. In some forms of mental disorder, memory images are particularly vivid and are taken for perceptions. For example, a patient may claim that he hears strange voices or sees strange visions. These false perceptions are called hallucinations.

INDIVIDUAL DIFFERENCES IN IMAGERY

There are as many different kinds of imagery as there are sensations, and people differ greatly in their ability to form these images. For most people, visual imagery seems to be clearer and to arise more frequently than other types, so that if they form images at all, they most frequently think of, say, a friend by calling up the image of his face. Others, however, would remember him by recalling the sound of his voice, while some might find kinaesthetic imagery of most help when thinking, say, of their movements in swimming or dancing. Nevertheless, most use mixed imagery to some extent, visual on some occasions, auditory or kinaesthetic on others. Again, although many people get poor images to touch (tactile imagery), taste (gustatory imagery), and smell (olfactory imagery), they may occasionally experience very powerful images of, for example, the

taste of a lemon or the smell of garlic, some investigations have suggested that those who are good in one type of imagery tend to be good in other types too; that is, that there is a general factor of imagery.

DIFFICULTIES DUE TO DIFFERENCES IN IMAGERY

It is likely that imagery may sometimes lead us to assume that others see theoretical and practical issues in the same way as ourselves, and that this may lead to difficulties in understanding their thoughts. Differences in imagery may be one cause of political, religious, and aesthetic intolerance. Similar difficulties may happen in teaching. A reacher who experiences visual imagery might at times have trouble in getting over his ideas to pupils who experience in the main auditory and kinaesthetic imagery. The difference in the way of 'seeing' things must also affect normal social intercourse between friends and acquaintances. Indeed, it has been suggested that it might be a source of trouble between husbands and wives.

THE VALUE OF IMAGERY IN EDUCATION

The experimental work on images suggests that it is of great help to some in their thinking but not to all. Indeed experimental work in imagery in the late nineteen sixties and early seventies (*e.g.* the work of Paivio or Bower) concludes that imagery has significance for learning and language. It is suggested that :

(*a*) There is no clear evidence that by exercise the *capacity to form images* can be increased. Naturally, if a child finds that he has a capacity for vivid imagery in any form he should be encouraged to use it whenever possible.

(*b*) *Visual imagery* is clearly connected with *spatial ability* in some way but the form of the relationship is unknown. Such imagery is likely to be of manipulated imaginatively. It seems possible, then, that it will be of help to the engineer, architect, chess-player and artist, yet it is by no means certain that they necessarily have to employ it in their thinking.

(*c*) Images may be necessary for most people when thinking about past, future or possible objects or events. At least, such *ideas need to be supported by images*. Many people, too, employ images of words, numbers or other symbols in

mathematical or other abstract thinking. For example, the notion of a country's 'balance of payments' may be illustrated by a simple visual aid : and for some people in image of this aid will be retained and be of great help when the concept is employed again. Note that the images used in abstract thinking are not always visual ones; there may be auditory images, or else actual words or numbers may be reproduced. Others may solve their problems without much use of imagery at all.

(*d*) Very often *image aid memory*. One may, for example, through imagery be better able to recall a poem, a chemical formula or the movements involved in handling a plane. But the value of imagery in this connection must not be overstressed. If there is insufficient intelligence for learning to take place, the power of vivid imagery will be of no avail in remembering. But as we said in (c), graphs and other visual presentations of material are of great help, for they make the learning easier and provide a picture which can be imaged later.

(*e*) Imagery plays a considerable part in the *appreciation of the arts*—music, sculpture, painting or literature. The greater the variety and vividness of images that can be experienced, the more likely is the work of art to evoke an emotional response and to be appreciated.

Thinking. In everyday speech the terms 'to think' and 'thinking' imply the use of the mind, or the having of ideas, and they are used in a number of contests. For example, I can say that I am thinking about a certain mountain pass, and little may come to my mind except some faint visual images. Or, I might tell some pupils to think about what they were taught yesterday. This means that they must try and recall yesterday's lesson. Again, a man, on being questioned, might say that he thinks it will rain. After examining the sky and his barometer, he draws a conclusion and announces the result. In this instance the activity of his mind was directed to some end, *i.e.*, the giving of an opinion regarding the likelihood of rain falling, and his *visual perceptions plus thinking*, yielded the answer. In psychology we keep the term 'thinking' to denote a connected flow of ideas

directed towards some definite purpose or end, so that our third example contained the greatest amount of true thinking. The difference between dreams and daydreams on one hand, and thinking on the other, emphasises that the latter is directed to a definite or real purpose. In the former our thoughts and images wander, are sometimes unconnected or even fantastic, and are not consciously checked. For example, a person might experience fantasy about what he would do if he won a large sum of money in the footwall poles. Unrealism is the mark of such mental activity although dreams and daydreams may well be controlled by unconscious desires and serve some useful purpose. At the same time it must be made clear that all our thinking is affected by past experiences, present emotional mood and physiological state, and by unconscious influences.

Language. Language is the means by which we express our thoughts to others either in vocal or written forms, but perhaps even more important, it immensely extends the range of the thought. If we were confined to perceptual thinking or even to ideational thinking that merely involved images, our thinking would remain at a relatively low level. But through the use of language and other symbols (*e.g.*, numbers) we can develop complex and abstract concepts.

PROBLEM SOLVING AND REASONING

If we keep to our definition of thinking, we may fairly say that thinking takes place whenever we attempt to solve a problem, and that problem-solving usually, but not always, demands some reasoning.

A problem can be said to exist when the way to attain some desired end or object is not immediately clear. For most simple problems that arise in everyday life the application of concepts, principles and techniques learnt from past experience will give the answer, but in more difficult instances this is not so. On these occasions a 'trial and error' or 'hit and miss' approach at the ideational level is sometimes successful, but on other occasions more serious thinking is required. If sufficient data for a solution seems to be available, the subject should first try to work out the types of approach that are likely to be successful, bearing in mind both the data and the required end. If one approach proves useless, then attempts should be made with a different one. Sometimes it is of help to invent some

theory and work out its consequences in order to see if it yields the required result. If it does, then the theory offers a solution to the problem, though not necessarily the only one. Again, if the problem has been thoroughly studied and all possible relevant information collected yet without result, it is often helpful to put the problem aside for a while and come back to ita again later (to 'sleep on it' as we say). In these circumstances a solution to the problem will sometimes come quite suddenly. Why this occurs, we are not sure. It may be that the unconscious mind is at work on the problem the whole time, or it may be that the subject comes back to the problem physically and mentally fresher without some of the bias, mental rigidity, and set, which affected his earlier efforts.

When we reason correctly we find relationships between items confronting us and work out new correlates. So we find, as we should expect, that reasoning power is closely dependent upon general intelligence.

THINKING AND FEELING

We must note the interaction of thinking and feeling. Thinking can never be detached from the total personality, and we cannot think independently of our emotions, needs, and values, any more than without being affected by past experience. Goldschmied studies the relationship between level of development in respect of conservation of substance, weight, number, area, distance, etc. and certain personality variables. It was found, as would be expected that conservation was positively related to IQ, MA and verbal ability.

At present, then, there are two main approaches to learning theory. One of these is the Stimulus-Response Associationist type of theory and the other is the Field-Cognition type of theory. In the Stimulus-Response Associationist type of learning theory, learning takes place through the establishment or strengthening of bonds between the stimulating conditions and the responses. But for this to happen the stimulus, the response and the reinforcement must take place together in time. Responses which are followed by reductions of needs tend to be repeated, and those not followed by regard or need-reduction tends to disappear.

LEARNING PROCESS

The following are among the most important factors influencing the learning process in children. These have been by experiment and are not deduced from learning theory :

(*a*) **Intelligence.** The more intelligent the child, the more easily will he spot relevant relationships between objects or ideas, and apply them to new but similar situations. Thus we find, as we should expect, that bright children are superior to dull children in trial and error learning, and their superiority is even greater in insightful learning.

(*b*) **Age**. Mental Age increases with chronological age up to about 15-16 years. Thus learning takes place with increasing facility up to the school leaving age providing motivation is maintained. In some instances, mental age increases after 16 years.

(*c*) **Relevant experience**. The greater the relevant experience in some field, the easier in general will be the learning of fresh material in that particular field or in one closely allied to it.

(*d*) **Motivation**. The extent to which a child is motivated determines the energy he will put into the learning process. Either primary or secondary needs may be involved. Further, unless he is motivated (even if only to avoid punishment) he cannot be regarded, hence there can be no reinforcement. Indeed, it is no exaggeration to say that one of our chief problems is to discover the best ways of motivating children so that they will learn.

(*e*) **Observation**. Noting the characteristic features of the learning situation, or spotting the exact nature of the stimuli, is essential. Furthermore, observation of results is important, since these results act as a reinforcement and serve as a guide towards better performance. Any of the factors listed in Chapter 5 which aid attention and observation also aid learning.

(*f*) **Reinforcement**. Reward plays a great part in determining which activities will be learnt. If a learnet activity is not rewarded, the activity tends not to reappear in future behaviour. The form that the reward can take depends upon the motivation, at that instant, of the particular child. The term reinforcement also refers to knowledge of results. This is very important in making learning efficient. There

is much evidence to suggest without such knowledge little learning takes place. The knowledge is not always given externally (*e.g.*, by the teacher) but sometimes by the pupil himself, as when he knows if he can recite a verse of poetry.

(*g*) **Repetition**. The learning of very simple activities may be accomplished on the first occasion when they are attempted. But with more complex activities, repetition, suitably spaced, help the learning process considerably.

COGNITIVE STRATEGIES OF INTELLIGENCE

Cognitive strategies are associated with the learning of psychomotoric activities, the number of alternative viable strategies, and ones that might be best suited under a set of circumstances.

The beginner appears to invoke cognitions for the following reasons.

1. To understand goals and to create an internalized image (covert verbalization), a process that could be termed goal-image formation.
2. To recognize similarities in the characteristics of the present task and situation with previous experiences (generalizability).
3. To recall related behaviours to the present task (to remember related cue-response associations and procedures; to retrieve information effectively).
4. To perceive the nature of the activity in the context of the environment, with situational demands and costs payoffs relevant to decision making.
5. To identify and select at any given time the most relevant and minimal cues to which to respond.
6. To concentrate in a relaxed state, demonstrating the desirable arousal level (the effect of cognitions over emotions).
7. To maintain the ideal motivational state and attitudes for optimal performance, task performance, task perseverance (the effect of cognitions over emotions).
8. To establish goals and expectations that are high and specific, but attainable to process that could be termed goal-expectancy formation.

9. To make correct response decisions (amplitude, speed, accuracy, direction).
10. To use problem solving, analysis, and adaptive behaviours when required.
11. To rehearse mentally prior to, during, and/or after performance (depending upon the situation and desirability of rehearsal).
12. To adapt to stress (cognitive control over and regulation of emotions).
13. To evaluate ongoing performance to monitor, regulate, and adjust performance, and evaluate the results of performance outcomes to the appropriate reasons (ability, energy expended, task difficulty, and luck).

The more advanced performer uses many of these same processes in the same manner without conscious attention and in a more sophisticated form. Of course, one of the basic differences between the novice and the highly skilled is that the latter does not have to think as much. It seems that with the development of skill, higher order programmes can be executed since the system is freed from the need to be consciously attentive to lower-order considerations. The automation of skill permits acts to be run off quickly, smoothly, and efficiently. But it must be emphasized that automated or non-thinking behaviour is not always appropriate. There must be flexibility and adaptability in the system so that adjustments can be made when necessary.

In going through the list of cognitions, it becomes apparent that strategies need to be used by trainees to activate processes that will enhance learning. The objectives of the training program and the type of task (*e.g.*. self-placed or externally paced) will also influence learner strategies.

CHAPTER 3

Intelligence Quotient (IQ)

IQ is a number indicating an individual's level of intelligence. This is the Mental Age, as shown by intelligence tests, times 100, divided by chronological age or as arranged in some other order. It is an indicator of what makes a student bright, and for this reason it can be interpreted as the divine light in every child. It gives him his own connotation of a thing and suggests a role for him in play or study.

There seems to be a way in which members of a group of children can be arranged in order of rank. The more general of them are usually the earliest to mature. But during the course of the child's development, the abilities become progressively improved in the more, specialized, while the more elementary abilities tend to combine into the more complex abilities.

Introversion means more interest in one's own experiences and feelings than external objects or other persons. When a child is after his heart, it pleases him perfectly. It is an emotional factor.

Extroversion means more interest in directing one's attitude to things outside himself rather then to his own feelings of heart. It is purely an activity of intelligence or mind. It is in fact a neurotic factor.

MEASUREMENT OF IQ

There are physiological tests to determine an individual's IQ.

A psychological test is defined as a standardized procedure for assessing any specific behaviour.

Three main types of characteristics can be measured by means of psychological tests :

(1) Tests of attainment (*i.e.*, of achievement, knowledge or skill in specific fields);

(2) Tests of abilities, either intellectual or practical; and

(3) Test of other characteristics of personality; *e.g.*, emotional, temperamental, and moral qualities (including interests, attitudes, ideals, and motivational tendencies generally).

It is short for intelligence quotient. If the IQ is to be determined the Mental Age must be considered in relation to actual age in years and months. It should not be confused with Mental Age, which only an Intelligence Test scores could indicate.

A child of six in physical development may have a Mental Age of a fifteen year old or vice versa. The IQ has to be determined by the relation of a child's Mental Age to his actual age.

Tests which measure attitudes or acquired knowledge, do not measure what your true IQ problem seeks. In case you do not read "Sports Column" of newspapers, does not mean that you have no sports IQ or say, if you have never been to college, it does not mean that your Literary IQ is nil.

IQ is your ability to learn. It is a weakness of virtually all intelligence tests that to some extent they do rely on acquired knowledge.

HOW TO FIND YOUR IQ

After taking one of the tests proceed as follows to find your IQ :

1. Examine the table in the facing page, and locate the Mental equivalent to your test score.

TABLE OF MENTAL AGES (IN MONTHS)

Your Score	*Your Mental Age*	*Your Score*	*Your Mental Age*	*Your Score*	*Your Mental Age*
2	94	32	157	61	218
3	96	33	159	62	221
4	98	34	162	63	223
5	100	35	164	64	225
6	103	36	166	65	227
7	105	37	168	66	229
8	107	38	170	67	231
9	109	39	172	68	233
10	111	40	174	69	235
11	113	41	176	70	237
12	115	42	178	71	240
13	117	43	181	72	242
14	119	44	183	73	244
15	122	45	185	74	246
16	124	46	187	75	248
17	126	47	189	76	250
18	128	48	191	77	252
19	130	49	193	78	254
20	132	50	195	79	256
21	134	51	197	80	259
22	136	52	199	81	261
23	138	53	202	82	263
24	140	54	204	83	265
25	143	55	206	84	267
26	145	56	208	85	269
27	147	57	210	86	271
28	149	58	212	87	273
29	151	59	214	88	275
30	153	60	216	89	278
31	155				

Your I.Q.

Average I.Q. : 101

SUPERIOR	(UPPER ONE PER CENT)	Above 140
EXCELLENT	(NEXT THREE PER CENT)	131-140
GOOD	(NEXT TWENTY-SIX PER CENT)	111-130
NORMAL	(NEXT FORTY-TWO PER CENT)	91-100
DULL	(NEXT TWENTY-FOUR PER CENT)	71-90
INFERIOR	(LOWEST FOUR PER CENT)	Below 71

2. If you be younger than fifteen years and a half divide the Mental Age by your own age in months. Carry the division to two decimal places, and multiply your answer by 100 to get your I.Q.

Example : If you secure 50 score marks where 59 is equivalent to a Mental Age of 195. Now, divide 195 by 144 (months of your age in 12 years). The result of division will be 1.35 and multiply the result by 100. The final result (1.35 × 100) comes to 135, which is your I.Q.

Literal translation of Aristotle's term *dia-nosis* is Intelligence. What is Intelligence ? It was this great Greek philosopher who used this word employing two-fold classification of mental characteristics into discriminative and directive ones, as contrasted with dynamic or orective characteristics, i.e., effective and connotative ones.

Thus we may repeat for clearer understanding why Aristotle proposed a 2-fold classification in place of the three-fold scheme favoured by Plato. Intelligence was defined by him as an abstract quality common to all "intellectual" processes, like sensation, perception, memory, imagination, reasoning and so on.

EARLIEST TYPES OF TEST :

Sir Francis Galton, for the first time in the nineteenth century explicitly recognised a need for precise techniques to assess mental differences between individuals. This idea essentially transformed individual psychology into a genuine science.

It was found that laboratory measurements displayed marked variations from one person to another. In the general study of conscious activities where individual variations were earlier treated as errors of measurement of the conscious activities, the chief interest lay in the quest of age of early civilization.

These variations were found by Galton to be related to the individual's ability and temperamental characteristics as displayed in everyday life. On this new point of view, he resolved to study and standardised the procedures of his experiments or 'mental tests', as he called them. Of these tests many were suggested by the experimental techniques already used in laboratory work.

But in Great Britain, the dominant school of psychology, in those days, held that all conscious processes developed out of the

sensory experiences of the individual, or the associations formed between them. Galton, hence, decided that a subject's general efficiency might best be measured by testing his ability to discriminate elementary stimulants of a man. Consequently he began his study by devising methods for measuring tactile, visual auditory, and muscular discrimination.

These sensory tests were later supplemented by tests for speed and strength of movement, quickness of reaction, and extent of associative memory. Later Galton realized that more complex processes could yield better estimates of general efficiency. So he constructed a number of tests for "higher mental processes". He also devised statistical techniques, which were found to be very valuable for validating and standardizing the new procedures-the percentile and the average deviation as metrical units, the scaling methods, based on the normal frequency distribution, and above all the coefficient of correlation. A statistical test is a procedure for testing a given hypothesis about, for example, laws of population growth or laws of nature in intellectual research or temperament, *e.g.*, capricious, habitual, moody, and so on.

In the course of his investigations, Galton was led to distinguish between special aptitudes (faculties) and "*general ability*" (a kind of super-faculty) determining mental efficiency in all forms of cognitive activity. In France, Alfred Binet adopted Galton's distinction, but since in French the word "ability" possessed a different meaning, Binet substituted Herbert Spencer's term "intelligence".

In 1904, Binet set about compiling standardized scales for measuring not only "pedagogical attainments" (progress in school education) but also what he termed "General Intelligence" and "partial aptitudes". He discarded the German "instrumental methods of laboratory" and compiled a series of problems, graded in difficulty. His method required for their solutions "little else but pencil, paper, pictures, and a few common objects". His age scale of intelligence tests was almost immediately translated and adopted by psychologiests in Belgium, Britain, Germany and the U.S.

Earlier all tests were individual. Later in London and elsewhere researches were made to investigate the possible use of group tests. The result was the type of problem commonly used in the so-called

11 + examination, an academic placement instrument administered to English children at about age 11 :

(1) Analogies'
(2) Opposites;
(3) Syllogistic reasoning;
(4) Code tests;
(5) Completion tests.

PERFORMANCE TESTS

These are tests, which do not entail a knowledge of some language, include "construction" and "imitation" tests a series of graded maze tests, a picture completion test. R.P. Intrew and D.G. Paterson combined á carefully Chosen selection for those handicapped by deafness, lack of schooling, or other physical and mental disabilities. By the end of the 1st decade of the 20th century, more than 50 well-tried tests for various abilities, for example : sensory discrimination, perception, memory, attention, learning imagination and the life were available in standard form, well illustrated for practice with tabulated form, of performances and full instructions for use.

Most of these tests are comparatively short-lived. They are quickly, replaced by others, like, fashions that come and go in women's clothing. A late version, of such British and the U.S. revisions exists in two forms which contains 62 items grouped into levels of difficulty corresponding to each successive year from infancy to maturity, for example,

(*i*) for age 5, typical tests include : defining words by classification or description, copying a square, repeating a sentence of 5 non-syllables from memory;

(*ii*) for year 10, reading and summarizing a short paragraph, indicating what is absurd in a picture, repeating six digits;

(*iii*) for testing adults, the Wechsler-Bellevce Intelligence scale gained widespred popularity in 1950s, particularly with clinicians. It consists of verbal and performance tests, and, with the aid of a conversion-table, he measurements are expressed in terms of a conventional intelligence quotient.

A lower-level version (the Wechsler Intelligence Scale for Children; WISCI was also devised for use with children. Other tests

are available for infants, for the blind, the deaf, and those otherwise handicapped.

Group tests are even more widely used not so much for tests of innate general ability us tests for general classification. Progress, though less, has been made with individual tests for special kinds of ability; observation memory, imagery, creativity, and the like. Improved apparatus is continually being devised for measuring nursery functions; visual acuity, colour vision, hearing, and so on.

The so called Multi-aptitude batteries have become increasingly popular; these commonly cover such aptitudes as verbal, numerical, and mechanical abilities , and less frequently, accuracy, memory, judgement, reasoning etc. There are, in accuracy, addition, numerous tests for more complex abilities; *e.g.*, artistic and musical aptitudes, and aptitudes for medicine law, engineering, teaching and the classical professions.

Analysis of tests covers 4 principal categories :

(1) The whole response.

(2) Partial response form, colour, texture, other factors that influenced the perception—a balanced view.

(3) The content of the response.

(4) Interpretation of the first three. It has to do with the popularity or originality of each response.

There are three main approaches to attitude measurement, in which the focus is upon : (*i*) the statements, (*ii*) the subjects, or (*iii*) the responses. For example :

(i) Measurement of attitude towards public censor—

(*a*) to protect the public, it is sometime necessary that censorship be exercised ?

(*b*) Book and journals, screen and T.V. plays should be subject to moral censorship ?

(ii) For each statement, subjects are asked to respond by checking one of several response categories : (*e.g.* "strongly agree", "agree", "uncertain", "disagree", or "strongly disagree".

(iii) This method focuses on responses. It demands a set of attitude statements, which vary along a single psychological

dimension and assume subjects responses to depend only upon their positions on this same dimension. For example, one prominent response method is scalogram analysis, in which response is listed in the order of increasingly favourable attitude towards cold climate.

A. I am able to tolerate occasional cold weather.
B. At times I enjoy cold weather.
C. I would enjoy living where the climate is one of cold winters.
D. I revel in cold weather, and would choose to live only in an area with cold climate.

GUIDELINES FOR TESTS

Intelligence Test differs from all other kinds of tests in certain aspects. But in one respect all tests required intelligence, and for this reason a layman can call all of them as Intelligence tests. For example, wresting is a physical test, for a wrestler uses his physical power more than his intelligence to achieve success. But this physical test can also be called a traditional test, as it also helps us to measure one's knowledge acquired from one's Guru, or Instructor.

On account of an urgent need of knowing the reliability of workers in politics, army, and trade, intelligence tests have become most popular in various fields of government administration and enterprises. In India they were originally introduced by the Services Selection Boards to select faithful and efficient men, who could prove useful in a particular profession of employment. Intelligence tests may be of various kinds, for example :

Verbal tests : Words and figures are used in these tests, in which knowledge of language is of primary importance, in which educational standard and academic achievements play a major role.

Non-verbal tests : Professions, where further training is to be given by the employing agency.

GUIDELINES FOR EXAMINEES

(i) You must understand very clearly and follow very careully every detail of the instructions given by the examiner orally.
(ii) You must read and understand every written instructions carefully to follow them strictly.

(iii) You must note the time of test, allowed and work so as to finish the answers within the time.

REASONING TESTS

Descartes' epistemology revolutionalised the theory or study of the origin, nature, methods and limits of knowledge by insisting that nothing was to be accepted as true that did not satisfy the demands or conditions of reason. A good memory and concentrated attention are of great help in determining what those conditions would be and in elaborating a method of complying with them in order to acquire a corpus of knowledge.

Reason discovers a criterion of truth, or certain knowledge that could be used to test the claims of any piece of putative knowledge so as to establish the validity or futility of those claims. Senses may deceive, but reason never leads to a wrong conclusion. By arguments, so short that memory is not involved, Descartes deduces the existence of God-as for example : my mother used to say that God exists because there are many puzzles which man can not solve, with all the help of cur senses, experiences, concentration and memory.

Like senses, memory too can deceive us. To the extent deductive argument depends in memory, then, even that argument must be treated doubtful until we can produce independent proof that a particular memory is to be trusted. Descartes developed on secure way of attaining knowledge as attested by its successes within mathematics. But he could not say if mathematical logic could be used in answering philosophical questions about what does and what does not exist.

He found an answer to this query in his famous proposition : *Je Pense, done je suis*. It means : I think, therefore, I am".

He said : "Although, I may doubt the truth of everything else, even the existence of my own body, but I cannot doubt the existence of myself, my mind."

Doubt is a mode of thought, like any kind of thought. Both require a thinker, and for this reason he averred that he existed as one. He asked : "why has God provided us with our senses, mind and memory ?" But replied : "Not for the purpose of deceiving us".

Without going deeper into modern philosophy, at this stage, the students should understand that it is reason, and perhaps the only means with man, that can make knowledge a human asset of the highest value.

CONCENTRATION TESTS

Concentration means exclusive attention or focusing of the mind upon something. Attention is a primary component of intelligence. If you concentrate on any task, it is sure that you will perform it more accurately and more quickly than if you allow your attention to wander.

Entire attention to any task can be given not for more than short period. Psychologists seem to place the top limit of attention span at 30 seconds or even less, although some laboratory estimates go us high as 90 seconds. Beyond this time-limit, the attention wanders for a moment from the main subject of study, and can be brought back to the work in hand by a specific mental effort called "concentration".

Sunbeams normally do not ignite fire. But if you focus the rays through a lense which concentrates their heat they can produce fire in a few seconds on a bunch of cotton fibres. Attention works like sunbeams, and your will to concentrate your mind like a lense, which throws more light on a subject of thought than normal thinking. He, who can concentrate for a longer period, is surely more intelligent than a normal thinker.

◗ ◗ ◗

CHAPTER 4

Methods of Measurement of Intelligence

BINET'S METHOD

The idea of intelligence testing was first devised by the French psychologist Binet at the beginning of the 20th century. The French Government asked Binet to invent a test which would weed out backward children in State schools, and thus save public money and social holding-back of the work of the teaching of children fundamentally incapable of reaching up a given standard of education.

It was a riddle. But Binet solved it :

(*i*) by giving a large series of practical questions, and thereby finding how many could be solved by the majority of children.

(*ii*) by dividing the children into different age groups, the test could be taken of the children of various age groups.

(*iii*) by arranging questions in the sequence of different age groups, beginning with the most common problems which could be solved by most children of ten or twelve, and so on.

Mental Age : If a child of ten years could score the problems of a child of a thirteen years, his Mental Age was said to be thirteen, and *vice versa.*

EYSENCK'S METHOD

Eysenck in a stimulating analysis of the various approaches to intelligence assessment, supports the view that the solution of mental test questions or problems depends upon three issues.

These are : (*i*) *speed of working*, (*ii*) *persistence in efforts to solve problems, the solution to which is not immediately apparent,*

and (*iii*) *a mental test which predisposes the individual to check his solution against the problem before writing it down immediately.* This suggests that at least as far as rest items are concerned, speed of working coupled with other aspects of personality determine the degree of the intelligence which is displayed.

(*a*) **General Ability** : Until 1904, Professor *Spearman* produced strong evidence, based on his own researches which involved tests and estimates of intelligence, that there was one fundamental ability underlying all cognitive activities. By cognitive activities is meant those activities that have to do with thinking or intellectual aspects of the mind, and not with feeling or desiring. Furthermore, he maintained that entering into each test was another ability, specific to that test alone.

(*b*) **Specific Ability** : He and his students concluded, in the above-mentioned and later researches, that every task involving intellectual activity depended upon a general ability, which he called '*g*', and a separate ability specific to each task involved. Thus, performance in tests of handwriting, vocabulary, or mechanical arithmetic, would be explained by *Spearman* as due to the general ability or factor, and a specific ability in each of the tests. His view became known as the theory of Two Factors. For all practical purposes, the word 'factor' means the same as 'ability', but it may be defined more formally as a group of category of performances which correlate highly with one another, and are relatively distinct from other categories of performances. Spearman refused at first to identify '*g*" with intelligence, but suggested that it was the general mental energy with which each individual is endowed.

SPEARMAN'S THREE ABILITIES

By studying the types of test which had the highest correlations with the general factor, '*g*' (for '*g*' had the highest 'saturation'), *Spearman* showed that task involved the general factor in so far as it necessitated the discovery of relations and the education of correlates. Indeed, he later came to believe that intelligence comprised three abilities. These were :

(*i*) *the ability to observe one's own mental processes;*

(*ii*) *the ability to discover essential relationships between items of knowledge;*

(*iii*) *the ability to deduce correlates.*

Spearman failed to allow sufficiently for abilities which, while less general than '*g*' as not specific to one test.

BURT'S VERBAL, NUMERICAL AND PRACTICAL GROUP ABILITIES

In 1917, Burt provided by an analysis of the performances of children in school subjects, that there were verbal, numerical, and practical group abilities, in addition to a general ability. These group abilities were linked to a group of subjects and were not specific to just one subject. Thus, Burt found that performance in Handwork, Drawing and Writing quality depended on the general factor, '*g*', and on a separate practical factor common to all three.

Verbal Ability : In 1931 stephenson showed the presence of a verbal ability 'v' over and above the general ability in tests which applied to a large group of school girls. Again, in 1935, El Koussy first showed the presence of a spatial factor ('*k*') in tests which he applied to boys aged 11-14 years; the essence of this ability being the capacity to manipulate shapes imaginatively.

	Spearman			*Group Factors*		
	g	*s*	*g*	*verbal*	*numerical*	*Spatial*
1.	+	S^1	+	+		
2.	+	S^2	+	+		
3.	+	S^3	+	+		
4.	+	S^4	+		+	
5.	+	S^5	+		+	
6.	+	S^6	+		+	
7.	+	S^7	+			+
8.	+	S^8	+			+
9.	+	S^9	+			+

The crosses indicate, in each case, the correlation between the test and the factor or factors. A blank space indicates that there is a zero or negligible correlation between the test and the factors.

INTELLIGENCE TESTS—A HISTORICAL PERSPECTIVE

We have already seen that the size of the correlation coefficient between a test and the general factor shows the extent to which the

test involves the discovery of relation and the education of correlates. But confirmed this using a different approach. He gave a number of varied tests to school children at Oxford and Liverpool and got the teachers to make careful estimates of the children's intelligence. After working out the correlation between the test scores and the teacher ratings, he found that tests which demanded the discovery of relevant relationships and the application of the relationships to new but similar situations, gave the highest agreement with the estimates of general ability.

BINET-SIMON SCALES OF INTELLIGENCE TESTING

Let us now discuss what are known as *Binet-Simon Scales* for measuring intelligence. Some of the items in these scales depend largely on information and knowledge, whereas modern group tests emphasise more the discovery of essential relationship. Note, however, that group verbal intelligence tests are increasingly being described as Verbal Reasoning Tests, reflecting the current view that performance on these is partly dependent on education.

INDIVIDUAL TESTS OF INTELLIGENCE OR REASONING

In 1905 Binet constructed his first test to measure children's intelligence levels. It became known as the 1905 Binet-Simon Scale and was devised for the express purpose of picking out mentally subnormal children in the schools of Paris who were unable to profit from a normal education. Such children were to be taught in a special school, but it was first necessary to devise some objective means of selecting them. In this scale we find an idea which has been very useful when measuring the intellectual abilities of children. It is the principle that, if we know the scores of typical children at each age, we can determine, in the case of a particular child, the extent to which his intellectual development is above or below average, or normal for his age.

The scale was composed of thirty items in increasing order of difficulty, and all the questions were put individually to the child by the examiner. Five typical items are given below :

(*a*) Execution of simple directions; imitation of simple gestures.

(*b*) Definition of familiar objects such as house, horse, spoon.

(*c*) Drawing from memory two different geometrical designs which had been shown simultaneously for 10 seconds.

(*d*) Giving rhymes to selected words.

(*e*) Giving the definition of, and distinction between, paired abstract terms, *e.g.*, sad and bored.

Judged against intelligence tests in use today this was rather a crude effort, but it did enable to classify the mentally sub-normal children in a more objective manner than had been possible before.

THE MENTAL AGE-DETERMINATION CLASSIFIED

A second scale known as the 1908 Binet-Simon Scale appeared three years later. This remedied many of the defects in the earlier scale. There were separate tests for children between 3 and 13 years and the scale was tried out on typical children, and standards of performance for each group obtained. One important principle introduced was that each test was placed at the year-level where it was passed satisfactorily by seventy-five per cent of the age-group. Binet also introduced the concept of *Mental Age*, which was the first device for expressing intelligence in objective numerical units. Mental Age indicates the level of a child's intellectual development but it does not say whether he is bright or dull for his chronological age. Accordingly the term Intelligence Quotient, or I.Q. was introduced to give an index of brightness. Thus :

$$\text{I.Q.} = \frac{\text{Mental Age}}{\text{Chronological Age}} \times 100$$

If a child, then, has a mental age of 8 years 0 months and a chronological age of 10 years 0 months, he has an I.Q. of 80; while a child having a chronological age of 9 years 0 months and a mental age of 11 years 3 months has an intelligence quotient of 125. Obviously the child of average mental ability has an I.Q. of 100.

The terms M.A. and I.Q. are now passing from-use and a person's standing on a test is expressed either in terms of percentiles or in standardised scores.

THE STANFORD REVISION OF THE BINET SCALE OF INTELLIGENCE

Binet 1908 scale caused great interest among psychologists in many countries, and many revisions and improvements soon appeared. Binet

himself brought out another scale in 1911, while in 1916, *L.M. Terman* published in America what was known at she Stanford revision of the Binet-Simon Intelligence Scale. This revision was constructed for the purpose of providing an instrument which was properly standardised and adapted for use in the U.S.A. It was based upon results obtained from about 1,000 native-born children in California. Each of the children came from an unselected group of average social status and was within two months of his birthday. This scale contained 90 items covering an age range from 3 to 14 years (excluding 11 and 13 years) together within a group of tests at the 'average adult' level, and another at the 'superior adult' level.

The version of the Binet scales that has been widely used in English-speaking countries is the Terman-Merrill New Stanford Revision published in 1937. The principal modifications in this scale, as compared with the 1916 scale, were as follows :

(*a*) There were two equivalent or parallel forms (L & M) of the scale, each of which contained 129 items.

(*b*) The scoring standards and instruction for administering the test were improved.

(*c*) The items extended the range that can be examined from two years of age upwards, through three grades of 'superior adult'. Between 2 and 5 years there are tests timed for siv-monthly intervals yielding greater differentiation during those early years. There were also tests for the 11 and 13 year age levels.

(*d*) Some of the questions depending largely upon information were left out and some non-verbal practical problems were introduced.

(*e*) It was standardised on a more carefully chosen and much larger group of subjects.

CRITICISM OF INTELLIGENCE TESTING SCALES

A number of criticisms have been made of the above mentioned popular scale. Some of these are :

(*a*) Tests tend to exaggerate the higher mental ages and I.Qs. This may be due to the varying spread or range of I.Qs at different ages, but Vernon suggests that the standardisation

is inaccurate for example, a mental age of 15 as indicated by this scale may really be 14 in some countries.

(*b*) Some of the items are misplaced. A child may fail in all the items one year but do two or three items in a higher year.

(*c*) The typical responses quoted in the scoring instructions sometimes need amending to suit local standards and environments. The scales adopted in the USA represent thoughts and expressions of American children whose cultural norms may be different from those prevailing elsewhere.

(*d*) The items are so varied that the test is not always capable of measuring the same ability. Spatial, numerical, verbal abilities are involved, as well as 'g'.

Meanwhile Burt in 1921 published his version of the 1908 Binet-Simon Scale. However, a new version of the Binet Scale was published in America in 1960 and became available to other countries of the world in 1962. Suitable items from both Forms L and M of the 1937 Revision were taken to form one test. One advantage of this test is that it gives the intelligence quotient as a 'deviation I.Q.' instead of calculating it through the mental age. But one study has confirmed that this Revision, like the 1937 Revision, exaggerates the higher mental ages and I.Q.'s.

WECHSLER-BELLEVUE INTELLIGENCE TESTS FOR ADULTS

An entirely new individual test, in the sense that it is not a revision of the Binet Scales, is the Wechsler-Bellevue Intelligence Test. It is intended to measure the intelligence of adolescents and adults between the ages of 10 and 60 years and is increasingly being used. It, too, depends on *verbal and spatial abilities as well as general intelligence*. A similar test, the Wechsler Intelligence Scale for Children (WISC), constructed for the 5-15 year age range is now often used instead of the Terman-Merrill test, while the Wechsler Pre-School and Primary Scale of Intelligence (WPPSI) can be used between 4 and 6.5 years of age.

CHAPTER 5

Why and How of Objective Type Testing

OBJECTIVE TYPE TESTING

In this type of examination, educationists now use a large number of short questions where the writing of pupils is reduced to a word or two, or where the answer consists merely of a figure, a tick or an underline. Although some of these questions are likely to involve nothing more than knowledge of basic facts, a good paper will also contain questions that demand reasoning. Such tests are referred to as 'objective'; they are the questions used in examinations in contrast with the old descriptive or essay type papers. A few simple questions are given below to illustrate their style :

(a) Multiple-choice

Select the correct answer from the following :

Isotopes may be defined as

(i) atoms of different elements which have the same atomic weight;

(ii) atoms of different which contain the same number of neutrons;

(iii) atoms of the same atomic number which contain different number of neutrons;

(iv) atoms of the same atomic weight which contain different numbers of neutrons;

(v) atoms of elements which contain equal numbers of protons and neutrons.

(b) Completion

Fill in the words required to complete the following statements or answer the questions asked :

(*i*) The quantity of electricity in coulombs = current (in .....) × time (in .....).

(*ii*) In Fleming's left-hand rule, if the forefinger represents the direction of the ....., and the middle finger represents the direction of the ....., then the thumb will indicate the direction of .....

(c) Matching Tests

Another well-known type of test of the Multiple-Choice kind is the *Matching Test*. A number of questions and a number of responses are listed in different order, and the questions and responses have to be fitted together.

For example

On the left is a list of the six longest rivers, and on right a list of countries. After each country write the name of the river found in that country.

(*a*) Missouri-Mississippi	China	.....
(*b*) Amazon	United States	.....
(*c*) Nile	India	.....
(*d*) Yenisei	Central Africa	.....
(*e*) Yangtse	Egypt and Sudan	.....
(*f*) Congo	Brazil	.....
	Western Siberia	.....

In making up the test the following points should be observed :

(*a*) The instructions should be as brief and as simple as are consistent with clarity.

(*b*) The questions must be free from all ambiguity.

(*c*) It is desirable to start with a few easy questions to get the pupil into the way of answering, and to give him confidence.

(*d*) Different types of questions such as multiple-choice and completion should be kept separate in order to avoid confusing the pupil.

(d) Recognition Tests

In the objective examination which employs questions of the recognition type, some examines can score marks by pure guesswork.

If there were in each question, say, three alternatives, then 33 per cent of the marks could be obtained by random guessing. One way, then, to make allowance for guessing, is to give credit for scores above that figure only. But a fairer method which does not penalise the subject who omits a question, in preference to guessing at it, is to calculate the examinee's score corrected for guessing by the formula

$$R - \frac{W}{n-1}$$

where, R is the number of answers correct, W the numbers wrong, and n the number of alternative responses for each question. When, there are five or more alternatives, the correction is usually omitted since it is small. Gupta and Penfold have suggested that when the number of alternative responses is two (as in a true/false test), and the subjects have been told 'do not guess', the formula R – .5 W is best for removing the effect of such correct guesses from the total score without penalising for erroneous information.

Taylor has shown that in the case of a multiple choice mathematics test there is no effect on the mean and spread of the marks obtained. A correction for guessing should only be applied when there is wide variability among examinees in their propensity to guess, fewer than five choices per item, or when the test is too difficult for the group tested.

ADVANTAGES OF OBJECTIVE EXAMINATIONS

(*a*) Marking is objective and takes little time.

(*b*) The whole syllabus can be covered by a paper containing, say, 150 questions in one hour. A large number of questions makes for higher reliability.

(*c*) The pupil spends his time thinking and not writing.

(*d*) So long as the questions cover all levels of difficulty evenly, the mark distribution will approximate to a normal one and can easily be converted to any other scale.

DISADVANTAGES OF OBJECTIVE EXAMINATIONS

(*a*) Setting the paper is a skilled job. If the test is badly constructed it will not bring out originality, organising ability, capacity to interpret information or apply principles, but measure only rote

knowledge and details. A well constructed test can bring out these more desirable characteristics.

(*b*) The examiner's personal opinions as to what is to be examined enters into the setting of the paper instead of deciding at the end the good and bad points of the answer. In a sense, then, these questions are subjective.

(*c*) A great deal reading is required from the candidate.

(*d*) These tests are somewhat artificial in there phrasing.

(e) Sometimes there is an undesirable effect upon study. Candidates tend to learn details as they will have to reproduce details. But well constructed tests cannot be charged with this to the same extent.

(*f*) Certain formal factors such as the examinee's previous acquaintance with this type of test, or other unknown group factors, affect performance in these examinations.

(*g*) No account is taken of lucidity of expression. However, if literary style, clarity of expression or handwriting are to be examined, separate papers should be set for this purpose.

EDUCATIONAL OBJECTIVES OF OBJECTIVE TESTING

It is important for the examiner to formulate what it is he is trying to measure. This necessitates a clear view of the objectives to which the education of the pupils should be directed. One interesting taxonomy of educational objectives has been put forward by Bloom. This comprises :

(*i*) Knowledge of specific facts, of terminologies, of conventions of trends, of classifications and categories, of principles and generalisations, of theories and structures.

(*ii*) Comprehension, interpretation and extrapolation.

(*iii*) Application of scientific and social science principles to concrete problems.

(*iv*) Analysis or breaking down the elements of the presented material, recognising their relations and significance.

(*v*) Synthesis of elements and parts to form a whole so as to produced a new communication; *e.g.*, an essay.

(*vi*) Evaluation in terms of either internal or external criteria.

INDIVIDUAL INTELLIGENCE TESTS

Individual tests are not normally used by teachers. They are mainty applied by clinical psychologists and psychiatrists in testing young children, in the diagnosis of mental sub-normality, in the examination of children backward in their school work, or in the case of those suffering from some forms of nervous or behaviour disorders. The use of individual tests is a skilled job and must not be undertaken without training. It is absolutely essential that good rapport with the examinee be established. Moreover, the application of individual tests may take a long time.

GROUP TESTS OF INTELLIGENCE OR REASONING

Teachers and others concerned with testing older, normal children, use group intelligence tests. The questions are usually printed in a booklet, so that by giving out a booklet to each examinee large numbers of children or adults can be tested at the same time. Such tests were first used by the American Army authorities in World War I to examine the intelligence of their recruits and so select those with enough ability for commissioned and non-commissioned officers' ran, and eliminate those whose low intelligence made them unfit for military service.

Group tests are of two kinds, *verbal* and *non-verbal*. The former usually demand the intelligent manipulation of words, or rather of ideas expressed in words, and the items set out below are among those frequently set in such a test. When the subject has to select the correct answer from a number of possible answers, the item is known as a selective-response or multiple-choice item. But when the candidate has to supply the correct answer it is known as a creative-response item.

CLASSIFICATION OF GROUP TESTS (VERBAL)

1. **Sentence Completion**. An incomplete sentence is given and the subject has to supply the word or words that best complete it. For example,

There are ... ... month in a year.

2. **Classification**. A number of words are given, and the subject has to underline a given number of words that belong together, or are alike in some way. For example,

Apple, turnip, bicycle, cabbage, letter, carrot.

3. **Synonyms and Antonyms**. A word is given and the subject has to underline the word in brackets which is the same or opposite in meaning. For example,

Tall (Heavy, quick, short, thin).

Frequently (Never, always, hurriedly, often).

4. **Number or Letter Series**. A series of numbers or letter is given and the subject must supply two numbers or letters that continue it. For example,

10	13	16	29	(—)	(—)
BA	DC	FE	HG	(—)	(—).

5. **Ordering**. A series of words or numbers are given and the subject has to underline the smallest and largest units indicated. For example,

Week,	second,	day,	hour,	minute
2158	8521	5218	1528	5182

6. **Codes**. A statement is given and the subject has to put it in code according to a given principle. Or, a code word is given together with its meaning, and the subject has to find the meaning of another code word. An example of the second type :

If QTF means rug, what does GDM mean ?

7. **Analogies**. The subject has to select a fourth word, which is to a third word, as a second word is to a first word. For example,

Thermometer is to temperature, as clock is to ..... (hour, strike, day, time, hands).

8. **Inferences**. A problem is given which demands reasoning for its solution. The subject has to supply or select the correct solution. For example,

Simmy is three years younger than Janardhan. She is eight years older than Nimmy and ten years older than Ramesh. How many years older than Ramesh is Simmy ?

These types of items do not exhaust all those that involve relational thinking, nor are they always presented in the way they are in the text.

The selective type answer is preferred to the inventive as it makes the marking easier and more objective. Occasionally the items

of various types are grouped in 'omnibus' fashion; that is, they are grouped in short subtests and occur in regular or irregular order. This ensures that the candidates attempt every kind of item even if they cannot complete more than half of the test in the time allowed. Generally group verbal tests provides a good measure of general intelligence but they also depend to some extent on verbal ability. Such tests are worked with greater facility by children coming from a background which has encouraged good language development.

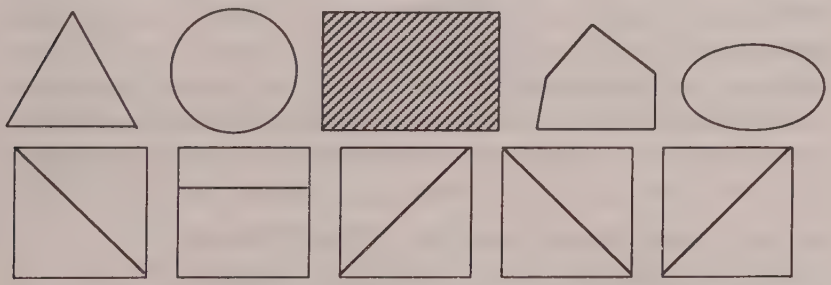
NON-VERBAL TESTS OF INTELLIGENCE OR REASONING

Many of the items used in non-verbal intelligence tests can be obtained by taking the same types of items as are used in group verbal tests, and adapting them for use with non-verbal material.

CLASSIFICATION OF NON-VERBAL TESTS

(*a*) Arranging figures of similar shape in order of size, and underline the largest and smallest of the figures.

(*b*) Underlining one figure out of, any, five which is most unlike the other four.



(*c*) Studying say, five figures, note the four which have something in common, and cross out the extra one.

(*d*) Working an analogies test which has been devised using shapes. For example, the subject might see the picture of a small triangle and of a large triangle; also a small square. He then has to select a large square from three or four alternatives given.

(*e*) **Progressive Matrices Test.** In one very famous non-verbal test of intelligence, the Progressive Matrices Test, the candidate has in some items, to study a pattern, part of which is missing. The subject has to perceive relationships, and then select a piece of pattern

from a number of pieces of pattern to complete the diagram. This test thus utilises a logical method of reasoning with non-verbal materials.

(*f*) **Pictorial Tests**. A pictorial test of intelligence is sometimes given to children between the ages of about 5 and 8 years. Such a test is given as a group test. In one type of item often set, the child has to examine, say, six small pictures representing articles or activities, and underline the picture which does 'not belong' to the other five.

A well constructed non-verbal test of intelligence does not involve much spatial ability. Such a test gives a better indication of intelligence for those whose language development has been retarded, but it does not usually give such a good forecast of scholastic success. It is now often called a *Non-Verbal Reasoning Test.*

THE CONSTRUCTION AND STANDARDISATION OF PSYCHOLOGICAL TESTS

A psychological test may be defined as a standardised task whose performance elicits a sample of the subject's behaviour and capability which can be objectively scored and compared with standards of performance. Such a test has been shown to be predictive of future behaviour. An intelligence test is just one example of such a test; other examples being, say, *vocabulary* and *arithmetic tests*. Two main types may be distinguished. In a power test, ample or unlimited time is given, but the level of difficulty of the harder items is such that few can complete all the tasks. In a speed test, the score is determined by the number of operations carried out correctly in a given time.

CHARACTERISTICS OF PSYCHOLOGICAL TESTS

The main characteristics of a psychological test are :

(*a*) There is a series of tasks or questions graded in difficulty.

(*b*) The acceptable response to an item must be independent of opinion of the examiner. Thus in an intelligence test the child usually selects and underlines the correct response from a number of possible responses. In a problem arithmetical test the child supplies the answer because there is only one correct reply.

(*c*) The test has to be suited to the average range, of the ability (or knowledge) of the candidates. Thus the test must be devised for a specific age group or a limited range of groups.

GAUSSIAN CURVE OF AVERAGES

Objective measures of many human traits, *e.g.*, height, tend to conform to the normal or Gaussian curve. It is in symmetrical, bell or cooked-hat shape. It shows that in a group of a hundred or more persons, most obtain measures round about the average and few obtain extreme measures either very high or very low. In a smaller group the distribution of traits is likely to be more irregular, merely on account of the size of the group.

There are many methods of obtaining the reliability of a test but for a psychological test to be of value (other than for merely research purposes), it must have a *reliability co-efficient* of at least 0.90 whatever the method used. If the reliability falls below this figure, the scores are too unstable to be trusted.

The test must be a valid one. This means that it must measure whatever it is supposed to measure. Examiners must know about what are called *construct validity, concurrent validity, predictive validity, content validity, factorial validity, face validity,* etc. These different terms overlap to some extent, but most teachers and examiners are concerned with *concurrent validity* and *predictive validity*. The former is estimated by calculating the correlation between scores obtained on the given test and other criterion measures (*e.g.*, examination marks, while the latter is found by correlating the scores obtained on the tests measuring performance.

(*i*) find out details of what the test involves. This in itself is a necessary preliminary step.

(*ii*) By correlating the test results with some external criterion such as teacher-estimates or educational success.

(*iii*) By using a mathematical technique known as factor analysis we can find out to what extent out new test correlates with general intelligence, 'g', and with other group abilities. thus we can find out what our test measures.

MENTAL AGE (MA)

We have already seen how Mental age of a student is determined we have also seen that by giving intelligence tests to fairly large and representative groups of students at different ages, it is possible to get averages or norms of performance at monthly or three-monthly

intervals. By this means we can assign a child a Mental Age by comparing his score with the norm for the test being used. Thus if he obtained a score equal to the norm of a 10.5 year old population, his Mental Age is said to be 10.5 years regardless of his chronological age. Hence Mental Age is the level of a persons mental ability, as expressed in terms of the chronological age, of average persons having the same level of mental ability. Similarly a person's attainment age in arithmetic, or reading, or spelling, is the level of his performance, as expressed in terms of the chronological age, of average persons having the same level of attainment.

CRITICISMS OF INTELLIGENCE TESTS

Intelligence tests, in spite of their usefulness, are not invariably accepted for every situation. Many criticisms have been made of such tests.

(*a*) The tests are *not reliable* tests of innate intelligence in that the ability to work them is affected by education and environment generally. Evidence has certainly accumulated which shows that the ability to do such tests does depend to some extent on the cultural pattern, education, and intellectual stimulation which the child has received from his environment. If these tests are regarded as tests of academic aptitude, or ability to profit from an academic type of education, then the usefulness of the test score is not lessented although the criticism has legs point. Clearly, the child who has had good intellectual stimulation from home and school is likely to get a higher test score, to do better in his academic subjects at school, and to do work of a more intellectual character in later life. On the other hand, verbal intelligence tests do to some extent give a fairer chance to those pupils from poor environments or with inadequate schooling, than do school examinations or teachers' estimates.

(b) Intelligence tests are *unfair* because those who cannot think quickly are penalised. Speed tests correlate 90 or more with scores obtained on the same tests without time limit. However, there is now good evidence to suggest that among adults of wide age range the time allowance should be generous, or the test completely untimed, for speed of work does fall off with age. Again, Yates showed that among a group of university students, the score obtained on Progressive Matrices (1947) after 40 minutes, underestimates the level the subject would have reached if given longer time. There may also

be some effect in the case of children. Moreton and Butcher studied the effect of speeded tests on selection procedures at eleven among rural children. Although, these workers died not come to any clear conclusions. Armstrong provided evidence that pupils in a rural environment in an 11 plus examination weighted in favour of speeded tests. again Yates has shown that among 9-year-olds, children can be identified who are slow but accurate workers whose ability can be seriously underestimated by imposed time limits on intelligence tests.

(*c*) *It is possible to give practice and coaching for intelligence tests.* This possibility is now well recognized.

(*d*) Intelligence tests *measure abilities other than general intelligence* or '*g*'. This is generally true. A verbal group test is to some extent dependent on verbal ability, while a well-constructed non-verbal test of intelligence is dependent, although even to a smaller extent, on spatial ability. Both kinds of tests bring in specific abilities, of course. Note, however, that if a test measures a little 'v' and 'k' ability as well as 'g', its predictive power is increased somewhat from the educational point of view, since most school tasks depend on 'g' plus 'v', or 'g' plus 'k', abilities, rather than on 'g' alone. On the other hand it seems likely that the form of the test introduces what is known as a formal factor. For example, all objective tests of the selective-response type appear to embody a formal factor (or specific ability to do that type of test) which detracts from their educational value.

(*e*) Performance in an intelligence test is dependent upon the *emotional mood of the subject.* Available evidence suggests that most children or adults of nervous temperament are not handicapped in the usual short intelligence test. There are, however, three points to note. First, there are few individuals who always get 'nervous' in any test or school examination and do not do themselves justice. Such people are likely to react similarly in any real life situation when a little stress is placed upon them. Such people are likely to react similarly in any real life situation when a little stress is placed upon them. Second, a child, whether normally nervous or not, is unlikely to do his best in any test if he has recently suffered some severe emotional experience, *e.g.*, death of a parent. Third, emotionally maladjusted

children who have difficulty in absorbing the ordinary concepts of the culture over the years will do less in an intelligence test than will normal children. Their condition is such that it is equivalent to their having received a poorer education. By and large, however, most children and adults are not handicapped by their emotional attitude provided that the intelligence tests are short and interesting.

(*f*) There is a mistaken notion among some people concerning what an intelligence test is supposed to measure, and to belittle it when it *fails to predict traits and abilities* it was never intended to. An intelligence test *does not measure attainment, or special abilities*, such as capacity for music or art; nor is its purpose to estimate temperament, morals or good manners. A child can be ill-mannered, and possess little musical ability, and yet be highly intelligent. Provided we keep clearly in mind the purpose of our test, we shall not make undue claims for it.

(*g*) Some people have decried the use of intelligence tests on the grounds that they do not accurately predict performance in school work, employment, or other real life situations. These critics have forgotten that success in school work or in occupation, depends upon special abilities and temperament, as well as intelligence.

Summing up, we may say that most of the criticism levelled against intelligence tests can be countered, if the limitation of the tests are understood. Such tests do, in spite of their limitations, forecast future academic aptitude better than ordinary school examinations.

VALIDITY OF INTELLIGENCE TESTS

IQ has its high predictive value. Tests for measuring the intellectual growth of children under two years of age have been devised by Gesell, Buhler, Griffith and other. Generally, research evidence shows that estimates of intelligence made by means of such scales are useless for predicting IQ's of normal children after that age. Anderson has shown that mental test items of the Gesell and Buhler type given to infants under 2 years of age are of little value even in predicting intellectual status at 5. But from 2 years of age onwards there is a gradual increase in relationship between test scores with decrease in time interval between tests. Thus Anderson quotes the following

figures for the correlation coefficients between intelligence test scores obtained at different age levels :

Between 2 and 7 years	.46
Between 6 and 7 years	.81
Between 11 and 16 years	.74
Between 15 and 16 years	.90

USES OF INTELLIGENCE TESTS

1. **Grading.** It was the policy in many schools to have classes which contained pupils of roughly the same ability and attainment and of approximately the same age. This grading was sometimes performed on the basis of scores obtained on group verbal intelligence tests, but more often scores obtained on test of attainment, were added to, or taken into consideration with, the scores obtained on the intelligence test.

2. **In selection for different types of secondary education.** Many Education Authorities used to set a group verbal intelligence test, along with tests of attainment, in the examination taken at 10/11 or 13 years of age, to select children for different types of secondary and higher education. With the coming of comprehensive schools this practice has declined somewhat.

3. **In educational guidance**. Within school and college, cumulative and continuous educational guidance is necessary. An intelligence test can be one instrument among many others which will help the staff in advising a pupil whether or not to take a particular course or subject.

4. **In vocational guidance and selection**. Although intelligence is not only the attribute which determines one's degree of success in an occupation, it is important that an individual should possess intelligence of the same order as that required by his work. If he has too little intelligence he will be incompetent, if too much for his work he will feel frustrated. Thus when giving vocational guidance to young men and women the scores obtained on verbal or mon-verbal intelligence tests are nearly always taken into account. Likewise many firms use such tests when selecting new employees. The Civil Service commissioners have introduced intelligence tests in their

selection procedures for many classes of civil servants while most entrants into the armed forces must take an intelligence test before they are allocated to their trade, or before they are considered for a commission. 1960 Revision of the Stanford-Binet Scale, or WISC, is used in the detection of mental subnormality. Whereas many instances of severe subnormality are easily recognisable, a more refined of severe subnormality are easily recognisable, a more refined technique such as we have in the individual intelligence test is necessary in borderline cases. An IQ of 75/80 is usually the level of intelligence below which children in some countries are sent to special schools for educationally subnormal children.

5. **In the case of emotionally maladjusted children**. When children exhibiting psychological difficulties are examined at the child guidance clinics, it is frequently found that their attainment in school subjects is much lower than would be expected for their age and intelligence level. This children sent to the clinics are examined in order to get an assessment of the level of their intelligence, and for this purpose an individual test in always used.

INTELLIGENCE AND ATTAINMENT

Intelligence is reflected in a person's all-round ability in daily life. The thinking skills involved powers of insight, understanding, conceptualization, quickness of thought and practical judgement. These skills are dependent to some extent on the environmental stimulation received since birth. Again, although attainment is clearly related to intelligence in the case of the more academic school subjects, it is more dependent upon teaching, attitudes and temperament than is intelligence. Thus measured intelligence (intelligence C) and measured attainment differ in the degree to which they depend on environmental stimulation. They are not essentially different in kind.

THE RELATIVE CONTRIBUTION OF HEREDITY AND ENVIRONMENT TO INTELLECTUAL GROWTH

Many attempts have been made to estimate the relative contributions of heredity and environment to children's intellectual growth. Before some of these are discussed it will be helpful to note some suggestions regarding the nature of intelligence put forward by Hebb. He maintains that 'intelligence' has two meanings and both of these are important.

Intelligence a is innate potential and cannot be observed or measured. This may have a neurophysiological basis and be wholly determined genetically. Intelligence B relates to the functioning of the brain after development has occurred : it reflects the all-round performance of the individual in daily life including school or work. A high innate potential does not guarantee that development will occur to the full extent of the potentiality. Thus although intelligence A sets the upper limit to intelligence B, the latter is going to be affected by early learning and its transfer effects. Intelligence B, however, can only be measured by a test appropriate to the culture. Thus we may also distinguish intelligence C, which is the observed intelligence in IQ or other units as estimated by the intelligence test. It must be remembered that, in our investigations, it is changes in intelligence C that we record. Sometimes it is possible to make judgements on changes in intelligence B although these cannot be made as objectively as can the changes in intelligence C. It is never possible, however, to note changes in intelligence A.

The hereditary background of our children cannot, at present, be improved by selective breeding, so those interested in the education of children should be concerned with the limits within which environmental stimulation can bring about changes in intellectual growth.

ASSESSMENT OF SELF-CONCEPTS

The individual's self-picture is a learned structure. It grows mainly through training, identification with individuals and peer groups, the comments of other children and people, the acquisition of social roles, and the inferences drawn from his experiences. Although it may appear from these comments that the self is unitary, in fact we have a number of 'social selves'. Strang distinguished the Basic self concept or the concept of a person he thinks he is; the Transitory Perception of the self the individual holds of himself at a particular instant, influenced perhaps by passing mood : the Social Self or the self as the person thinks other see it; and the Ideal Self or the Self the person would like to be. Philips, also Vernon, have reviewed the studies dealing with self-concepts in children, adolescents and adults, and there is no doubt that such concepts are now thought to be of great importance in motivating behaviour, in maintaining mental health, and in the learning influencing situation. A discrepancy between a child's picture of his Ideal Self and Actual Self may have an unfavourable effect on his school work and personality development.

CHAPTER 6

Measurement of Personality Traits Theory and Self-Appraisal

PERSONALITY INVENTORY

Sociability

Answer the following 26 questions to determine from sociability :

1. Do you find it hard to enjoy yourself at a lively party ?
2. Can you usually let yourself go and enjoy yourself a lot at a gay party ?
3. Do you usually stay in the background at parties and get-togethers ?
4. Do you like mixing with people ?
5. Generally do you prefer reading to meeting people ?
6. Do you like going out a lot ?
7. Do you usually keep yourself except with very close friends ?
8. Are you rather lively ?
9. Do other people think of you as being very lively ?
10. Are you mostly quiet when you are with other people ?
11. Do you like plenty of excitement and bustle around you ?
12. Do you prefer to have few but special friends ?
13. Can you easily get some life into a rather dull party ?
14. When you make new friends is it usually you who makes the first move or invites ?
15. Do you usually stay in the background at parties and get-togethers ?
16. Do you find it hard to really enjoy yourself at a lively party ?

17. Can you usually let yourself go and enjoy yourself a lot at a gay party ?
18. Are you rather lively ?
19. Do other people think of you as being very lively ?
20. Are you mostly quiet when you are with other people ?
21. Can you easily get some life into a rather dull party ?
22. Do you like mixing with people ?
23. Generally do you prefer reading to meeting people ?
24. Do you suddenly feel shy when you want to talk to an attractive stranger ?
25. Do you usually keep yourself to yourself except with very close friends ?
26. Do you like going out a lot ?

Impulsiveness

Are you impulsive ? Answer to following 14 questions will let you know :

1. Do you generally do and say things quickly without stopping to think ?
2. Do you often get into a jam because you do things without thinking ?
3. Do you stop and think things over before doing anything ?
4. Do you often do things on the spur of the moment ?
5. Do you sometimes say the first thing that comes into your head ?
6. When people shout at you do you shout back ?
7. Do you generally do and say things quickly without stopping to think ?
8. Do you stop and think things over before doing anything ?
9. Do you often do things on the spur of the moment ?
10. Do you often get into a jam because you do things without thinking ?
11. Do you like planning things carefully well ahead of time ?
12. Do you sometimes say the first thing that comes into your head ?

13. Would you do almost anything for a dare ?
14. Would you call yourself happy-go-lucky ?

Mood Swings

Answer the following 17 questions to know how moody you are ?

1. Do you sometimes feel happy, sometimes sad, without any real reason ?
2. Do you ever feel just miserable for no good reason ?
3. Have you often felt listless and tired for no good reason ?
4. Are you sometimes bubbling over with energy and sometimes very sluggish ?
5. Are you moody ?
6. Do you often have a restless feeling that you want something but do not know what ?
7. Do you often feel fed-up ?
8. Does your mood often go up and down ?
9. Do you sometimes feel happy, sometimes sad, without any real reason ?
10. Do you ever feel just miserable for no good reason ?
11. Have you often felt listless and tired for no good reason ?
12. Does your mood often go up and down ?
13. Are you sometimes bubbling over with energy and sometimes very sluggish ?
14. Do you often have a restless feeling that you want something but do not know what ?
15. Do you often feel fed-up ?
16. Are you moody ?
17. Do you often long for excitement ?

Sleeplessness

Sleeplessness is a trouble source. Analyse yours, if any, by answering these 9 questions

1. Do you suffer from sleeplessness ?
2. Do you find it hard to fall asleep at bed time ?
3. Do ideas run through your head so that you cannot sleep ?

4. Have you often lost sleep over your worries ?
5. Do you find it hard to fall asleep at bed time ?
6. Do you suffer from sleeplessness ?
7. Do ideas run through your head so that you cannot sleep.
8. Have you often lost sleep over your worries ?
9. Do you sometimes get so restless that you cannot sit long in a chair ?

Jocularity

You will discover this healthy trait in your personality by answering the following 10 questions.

1. Do you like practical jokes ?
2. Do you like playing pranks on others ?
3. Do you hate being with a crowd who play jokes on one another ?
4. Do you like practical jokes ?
5. Do you like playing pranks on others ?
6. Do you hate being with a crowd who play jokes on one another ?
7. Do you like practical jokes ?
8. Do you like playing pranks on others ?
9. Do you hate being with a crowd who play jokes on one another ?
10. Do you like cracking jokes and telling funny stories to your friends ?

Carefreeness

A moderate means of carefree nature keeps the balance in your personality. Find out how much you have this trait. Answer the following 8 questions.

1. Would you call yourself happy-go-lucky ?
2. Are you usually carefree ?
3. Generally do you feel that things will sort themselves out and come right in the end ?
4. Are you an easy-going person, not generally bothered about having things just so ?

5. Do you sometimes put off until tomorrow what you ought to do today ?
6. Generally do you feel that things will sort themselves out and come right in the end ?
7. Are you usually carefree ?
8. Would you call yourself happy-go-lucky ?

Nervousness

An unhealthy trait-needs probing by answer these questions.

1. Would you call yourself a nervous person ?
2. Do you suffer from nerves ?
3. Would you call yourself tense or highly-strung ?
4. Do you get attacks of shaking or trembling ?
5. Do you have dizzy turns ?
6. Are you troubled by aches and pains ?
7. Do you worry about your health ?
8. Do you get nervous in places like lifts, trains or tunnels ?
9. Would you call yourself a nervous person ?
10. Do you suffer from nerves ?
11. Would you call yourself tense or highly-strung ?
12. Do you get attacks of shaking or trembling ?
13. Would you rather plan things than do things ?

Sensitivity

Over-sensitivity or under-sensitivity are bad traits. Find out your balance from the following 22 questions.

1. Do you often worry about things you should not have done or said ?
2. Are you easily hurt when people find fault with you or your work ?
3. Are your feelings rather easily hurt ?
4. Do you worry too long after an embarrassing experience ?
5. Are you often troubled about feelings of guilt ?
6. Do you worry about awful things that might happen ?
7. Are you troubled with feelings of inferiority ?

8. Do you often think of your past ?
9. Are you touchy about some things ?
10. When you get annoyed do you need someone friendly to talk to about it ?
11. Do you often feel self-conscious when you are with superiors ?
12. Do you suddenly feel shy when you want to talk to an attractive stranger ?
13. Would you say you were fairly self-confident ?
14. Have you often lost sleep over your worries ?
15. Do you often worry about things you should not have done or said ?
16. Do you worry too long after an embarrassing experience ?
17. Do you often feel self-conscious when you are with superiors ?
18. Do you often get 'butterflies in your tummy' before an important occasion ?
19. Are you often troubled about feelings of guilt ?
20. Are you troubled with feelings of inferiority ?
21. Do you suddenly feel shy when you want to talk to an attractive stranger ?
22. Do you get palpitations or thumping in your heart ?

Absent mindedness

A weakness that can be overcome. Following nine questions will reveal yours and help you to eradicate it.

1. Are you often lost in thought ?
2. Do you daydream a lot ?
3. Does your mind wander when you are trying to attend closely to something ?
4. Do you find it very hard to take no for an answer ?
5. Do you like the kind of work that you need to pay close attention to ?
6. Are you slow and unhurried in the way you move ?

7. Do you like doing things in which you have to act quickly ?
8. Does your mind often wander when you are trying to attend closely to something ?
9. After having done something-important do you feel you could have done better ?

Quick-wittedness

A most welcome traits. Find your virtue from the answers to following 9 questions.

1. Can you put your thoughts into words quickly ?
2. Do you nearly always have a ready answer when people talk to you ?
3. Do you like talking to people so much that you never miss a chance of talking to a stranger ?
4. Would you do almost anything for a dare ?
5. As a child did you always do as you were told immediately and without grumbling ?
6. Can you put your thoughts into words quickly ?
7. Do you nearly always have a ready answer when people talk to you ?
8. Do you often feel self-conscious when you are with superiors ?
9. After having done something important do you often feel you could have done better ?

Social shyness

A weakness you can shed off easily. Try the following questions.

1. Do you like working alone ?
2. Would you rather be at home on your own than go to a boring party ?
3. Can you usually do things better figuring them out along than by taking to others ?
4. Would you be very unhappy if you could not see lots of people most of the time ?
5. Do you like doing things in which you have to act quickly ?

6. Would you be very unhappy if you could not see lots of people most of the time ?
7. Would you rather be at home on your own than go to a boring party ?
8. Do you like working alone ?
9. Do you like plenty of excitement and bustle around you ?
10. Do you prefer to have few but special friends ?
11. Do you usually keep yourself to yourself except with very close friends ?
12. Generally do you prefer reading to meeting people ?

Habit to lie

Habits die hard, but make good effort by analysing your answers to the following 9 questions.

1. Do you sometimes get cross ?
2. Once in a while do you lose your temper and get angry ?
3. Do you sometimes sulk ?
4. Are you touchy about something ?
5. Once in a while do you lose your temper and get angry ?
6. Do you sometimes get cross ?
7. When drawn into a quarrel do you prefer to have it out to being silent ?
8. Do you sometimes sulk ?
9. Are you touchy about some things ?

MISCELLANEOUS FACTORS IN PERSONALITY BUILDING

There are many other factors in personality inventory but these do not match to any reasonable standard, nor are they easily interpreted; it seems best to regard them as statistical artefacts. Yet we may study some of them.

Punctuality

1. Are you slow and unhurried in the way you move ?
2. Have you ever been late for an appointment or work ?
3. Have you sometimes told lies in your life ?
4. Do you often make up your mind too late ?

5. Do you ever get short of breath without having done heavy work ?

Hardiness

1. Are you troubled by aches and pains ?
2. Do you have dizzy turns ?
3. Do you worry about your health ?
4. Do you ever get short of breath without have done heavy work ?
5. Do you get very bed headaches ?
6. Do you get nervous in places like lifts, trains or tunneis ?
7. Do you worry about awful things that might happen ?
8. Do you get palpitations or thumping in your heart ?

Nervousness

1. Are you moody ?
2. Would you call yourself tense or highly-strung ?
3. Have you often lost sleep over your worries ?
4. Do you suffer from nerves ?
5. Does your mood often go up and down ?
6. Are you easily hurt when people find fault with you or your work ?
7. Do you suffer from sleeplessness ?
8. Do you often feel fed-up ?
9. Do you worry about your health ?
10. Do you daydream a lot ?
11. Would you call yourself a nervous person ?
12. Have you often felt listless and tired for no good reason ?
13. Are you troubled by aches and pains ?
14. Do you worry too long after an embarrassing experience ?
15. Do you often need understanding friends to cheer you up ?
16. Are your feelings rather easily hurt ?
17. Do you find it hard to fall asleep at bed-time ?
18. Do you worry about awful things that might happen ?
19. Are you an irritable person ?

20. Do you get very bad headaches ?
21. Do you ever feel just miserable for no good reason ?
22. Are you often troubled about feelings of guilt ?
23. Do you sometimes feel happy, sometimes sad, without any real reason ?
24. Do you have dizzy turns ?
25. Do ideas run through your head so that you cannot sleep ?
26. Do you find it very hard to take no for an answer ?
27. Do you sometimes sulk ?
28. Do you often long for excitement ?
29. Do you often worry about things you should not have done or said ?
30. Do you get palpitations or thumping in your heart ?
31. Are you often troubled with feelings of inferiority ?
32. Do you often have a restless feeling that you want something but do not know what ?
33. Are you often lost in thought ?
34. Do you often think of your past ?
35. Do you often get into a jam because you do things without thinking ?

Repentence

1. After having done something important do you often feel you could have done better ?
2. Are you slow and unhurried in the way you move ?
3. Do you often feel self-conscious when you are with superiors ?
4. Would you call yourself a nervous person ?
5. Are you troubled with feelings of inferiority ?
6. Do you suffer from nerves ?
7. Would you call yourself tense or highly-strung ?
8. Would you say that you were fairly self-confident ?
9. Do you often need understanding friends to cheer you up ?
10. Do you get attacks of shaking or trembling ?
11. Do you get palpitations or thumping in your heart ?

12. Do you have many nightmares ?
13. Do you find it hard to fall asleep at bed time ?
14. Do you like mixing with people ?
15. Have you often lost sleep over your worries ?
16. Generally do you prefer reading to meeting people ?
17. Do you suffer from sleeplessness ?
18. When drawn into a quarrel do you prefer to have it out to being silent ?
19. Do ideas run through your head so that you cannot sleep ?
20. Do you feel uncomfortable in anything but everyday clothes ?
21. Do you like cracking jokes and telling funny stories to your friends ?
22. Do you worry too long after an embarrassing experience ?

Day dreaming

1. Are you often lost in thought ?
2. Do you daydream a lot ?
3. Do you often think of your past ?
4. Do you often make up your mind too late ?
5. Are you often troubled about feelings of guilt ?
6. Occasionally do you have thoughts and ideas you would not like other people to know about ?
7. Do you worry about awful things that might happen ?
8. Are you slow and unhurried in the way you move ?
9. Are you troubled by aches and pains ?
10. Do you worry about your health ?
11. Does your mind often wander when you are trying to attend closely to something ?

Excitement

1. Do you like plenty of excitement and bustle around you ?
2. Would you call yourself happy-go-lucky ?
3. Are you rather lively ?
4. Do other people think of you as being very lively ?

5. Do you like practical jokes ?
6. Are you usually carefree ?
7. Do you like going out a lot ?
8. Do you like playing pranks on others ?
9. Do you often long for excitement ?
10. Would you do almost anything for a dare ?
11. Do you hate being with a crowd who play jokes on one another ?
12. Do you like doing things in which you have to act quickly ?
13. Do you like mixing with people ?
14. Can you usually let yourself go and enjoy yourself a lot at a gay party ?
15. Can you easily get some life into a rather dull party ?
16. Do you often do things on the spur of the moment ?
17. Do you find it hard to really enjoy yourself at a lively party ?
18. Do you usually stay in the background at parties and get-togethers ?
19. Do you like cracking jokes and telling funny stories to your friends ?
20. When the odds are against you do you still think it worth taking a chance ?
21. Would you be very unhappy if you could not see lots of people most of the time ?
22. Would you rather be at home on your own than go to a boring party ?

Jolly

1. Are you rather lively ?
2. Do you like doing things in which you have to act quickly ?
3. Do other people think of you as being very lively ?
4. Do you like practical jokes ?
5. Can you easily get some life into a rather dull party ?
6. Do you often do things on the spur of the moment ?
7. Do you like playing pranks on others ?

8. Do you like plenty of excitement and bustle around you ?
9. Would you call yourself happy-go-lucky ?
10. Are you usually carefree ?
11. Do you hate being with a crowd who play jokes on one another ?
12. Do you like cracking jokes and telling funny stories to your friends ?
13. Would you say that you were fairly self-confident ?
14. Do you nearly always have a ready answer when people talk to you ?
15. Can you usually let yourself go and enjoy yourself a lot at a gay party ?
16. Do you usually stay in the background at parties and get-togethers ?
17. Do you like mixing with people ?
18. Would you be very unhappy if you could not see lots of people most of the time ?
19. Generally do you prefer reading to meeting people ?
20. When you make new friends is it usually you who makes the first move or invites ?
21. Do you like going out a lot ?
22. Do you sometimes say the first thing that comes into you head ?
23. Do you often long for excitement ?
24. Do you find it hard to really enjoy yourself at a lively party ?
25. Do you often get into a jam because you do things without thinking ?

General Shyness

1. Do you suddenly feel shy when you want to talk to an attractive stranger ?
2. When drawn into a quarrel do you prefer to have it out to being silent ?
3. Do you often feel self-conscious when you are with superiors ?

4. Are you mostly quiet when you are with other people ?
5. Do you nearly always have a ready answer when people talk to you ?
6. Can you put your thoughts into words quickly ?
7. When you make new friends is it usually you who makes the first move or invites ?
8. Would you say that you were fairly self-confident ?
9. Are you troubled with feelings of inferiority ?
10. Can you easily get some life into a rather dull party ?
11. Do you often make up your mind too late ?

Temper

1. Do you something get cross ?
2. Once in a while do you lose your temper and get angry ?
3. Are you completely free from prejudices of any kind ?
4. Are you touchy about some things ?
5. Of al the people you know are there some whom you definitely do not like ?
6. Do you sometimes sulk ?
7. When people shout at you do you shout back ?
8. Once in a while do you lose your temper and get angry ?
9. Are you an irritable person ?
10. Do you sometimes sulk ?
11. When drawn into a quarrel do you prefer to have it out to being silent ?
12. As a child did you always do as you were told immediately and without grumbling ?
13. Are you moody ?

Inferiority/superiority complex

1. Do you often need understanding friends to cheer you up ?
2. Do you often feel self-conscious when you are with superiors ?
3. Does your mood often go up and down ?
4. Are you moody ?

5. Are you often troubled about feelings of guilt ?
6. Are you troubled with feelings of inferiority ?
7. Do you sometimes sulk ?
8. Does your mind often wander when you are trying to attend closely to something ?
9. Do you ever feel just miserable for no good reason ?
10. Do you suddenly feel shy when you want to talk to an attractive stranger ?
11. Are you feelings rather easily hurt ?
12. Are you easily hurt when people find fault with you or your work ?
13. Do you sometimes feel happy, sometimes sad, without any real reason ?
14. Do you often feel fed-up ?
15. Do you often worry about things you should not have done or said ?
16. Do you worry about awful things that might happen ?
17. Are you sometimes bubbling over with energy ad sometimes very sluggish ?
18. Do you often feel listless and tired for good reason ?
19. Are you touchy about some things ?
20. Do you worry too long after an embarrassing experience ?
21. Do you often make up your mind too late ?
22. Do you suffer from nerves ?
23. Occasionally do you have thoughts and ideas you would not like other people to know about ?
24. Would you call yourself a nervous person ?
25. When you get annoyed, do you need someone friendly to talk to about it ?
26. Do you daydream a lot ?
27. Would you say that you were fairly self-confident ?
28. Do you often get butterflies in your tummy before an important occasion ?
29. Do you sometimes get so restless that you cannot sit long in a chair ?

30. Do you often long for excitement ?
31. Are you an irritable person ?
32. Do you get nervous in places like lifts, trains or tunnels ?
33. Do you often get into a jam because you do things without thinking ?

GUILFORD'S MAIN PERSONALITY FACTORS

General Activity : Energetic, rapid-moving, rapid-working person, who likes action and may sometimes be impulsive.

Ascendance : The person who upholds his rights and defends himself in face-to-face contacts; who does not mind being conspicuous, in fact may enjoy it; who through social initiative gravitates to positions of leadership; who is not fearful of social contracts; who is not inclined to help his thoughts to himself. There is little to indicate that submission' accurately described the negative pole, as was formerly believed.

Masculinity vs. feminity : Has masculine interests, vocational and avocational; not emotionally excitable or expressive; not easily aroused to fear or disgust; somewhat lacking in sympathy.

Confidence vs. inferiority feelings : Feels accepted by others, confident, and adequate; socially poised; satisfied with his lot; not self-centred.

Calmness, composure vs. nervousness : Calm and relaxed rather than nervous and jumpy; not restless, easily fatigued, or irritated; can concentrate on the matter at hand.

Sociability : Likes social activity and contacts, formal or informal; likes positions of social leadership; his social poise, not shy, bashful, or seclusive.

Reflectiveness : Given to meditative and reflective thinking; dreamer; philosophically inclined; has curiosity about and questioning attitude towards behaviour of self and others.

Depression : Emotionally and physically depressed rather than cheerful; given to worry and anxiety and to persevering.

Emotionality : Emotions easily aroused and perseverating, yet shallow and childish; daydreamer, (not identical with Factor C.)

Restraint vs. rhathymia : Self restrained and self controlled; serious minded rather than happy-go-lucky; not cheerfully irresponsible.

Objectivity : Takes an objective, realistic view of thing; alert to his environment and can forget himself; not beset with suspicions.

Agreeable : Low-scoring individual is easily aroused to hostility; resists control by others; has contempt from others; and may be aroused to aggressive action. High scoring person is friendly and compliant.

Co-operativeness, tolerance : Low-scoring person is given to critical fault-finding generally; has little confidence or trust in others; self-centred and self-pitying.

CATTELL'S MAIN PERSONALITY FACTORS

Factor-A : CYCLOTHYMIA *vs.* SCHIZOTHYMIA

A+	A–
Easygoing	Obstructive, cantankerous
Adaptable (in habits)	Inflexible, 'rigid'
Warmhearted, attentive to people	Cool, indifferent
Frank, placid	Close-mouthed, secretive, anxious
Emotional, expressive	Reserved
Trustful, credulous	Suspicious, 'Canny'
Impulsive, generous	Close, cautious
Co-operative, self-effacing	Hostile, egotistical
Subject to personal emotional appeals	Impersonal
Humorous	Dry, impassive

Factor-B : INTELLIGENCE

B+	B–
Intelligent	Unintelligent
Thoughtful, cultured	Unreflective, boorish
Persevering, conscientious	Quitting, conscienceless
Smart, assertive	Dull, submissive

Factor-C : EGO STRENGTH *vs.* NEUROTICISM

C+	C–
Emotionally stable	Emotional, dissatisfied
Free of neutrotic symptoms	Showing a variety of neurotic symptoms
Not hypochondriacal	Hypochondriacal, plaintive
Realistic about life	Evasive, immature, artistic
Unworried	Worrying, anxious
Steadfast, self-controlled	Changeable
Calm, patient	Excitable, impatient
Persevering and thorough	Quitting, careless
Loyal, dependable	Undependable morally

Factor-D : EXCITABILITY *vs.* INSECURITY

D+	D–
Demanding, impatient	Emotionally mature
Attention-getting, exhibitionistic	Self-sufficient
Excitable, overactive	Deliberate
Prone to jealousy	Not easily jealous
Self-assertive, egotistical	Self-effacing
Nervous symptoms	Absence of nervous symptoms
Changeable, lacks persistence	Self-controlled
Untrustworthy	Conscientious

Factor-E DOMINANCE *vs.* SUBMISSIVENESS

E +	E –
Self-assertive, confident	Submissive, unsure
Boastful, conceited	Modest, retiring
Aggressive, pugnacious	Complassant
Extrapunitive (in the sense introduced by Rosenzweig)	Impunitive, intropunitive
Vigorous, forceful	Meek, quiet
Wilful, egotistical	Obedient
Rather solemn or unhappy	Lighthearted, cheerful
Adventurous	Timid, retiring

Insensitive to social disapproval,	
Unconventional	Tactful, conventional
Reserved	Frank, expressive

Factor-F : SURGENCY *vs.* DESURGENCY

F+	F–
Cheerful, joyous	Depressed, pessimistic
Sociable, responsive	Seclusive, retiring
Energetic, rapid in movement	Subdued, languid
Humorous, witty	Dull, phlegmatic
Talkative	Taciturn, introspective
Placid, content	Worrying, anxious unable to relax, obessional
Resourceful, original	Slow to accept a situation
Adaptable	Bound by habit, rigid
Showing equanimity	Unstable mood level
Trust, sympathetic, open	Suspicious, brooding, narrow

Factor-G : SUPEREGO *vs.* STRENGTH

G+	G–
Persevering, determined	Quitting, fickle
Responsible	Frivolous, immature
Insistently ordered	Relaxed, indolent
Conscientious	Unscrupulous
Attentive to people	Neglectful of social chores
Emotionally stable	Changeable

Factor-H : PHARMIA *vs.* THRECTIA

(Parasypothetic Immunity)	(Threat Reactivity)
H+	H–
Adventurous, likes meeting people	Shy, timid, withdrawn
Shows strong interest in opposite sex	Little interest in opposite sex
Kindly, friendly	Hard, hostile
Frank	Secretive
Impulsive (but no inner tension)	Inhibited, conscientious
Likes to 'get into the swim'	Recoils from life
Self-confident	Lacking confidence
Carefree	Careful, considerate

Factor-I : PREMSIA *vs.* HARRIA

I+	I–
Demanding, impatient	Emotionally mature
Dependent, immature	Independent-minded
Kindly, gentle	Hard
Aesthetically fastidious	Lacking artistic feeling
Introspective, imaginative	Unaffected by 'fancies'
Intuitive, sensitivity imaginative	Practical, logical
Gregarious, attention-seeking	Self-sufficient
Frivolous	Responsible
Hypochondriacal	Free from hypochondria

Factor-J : COASTHENIA (thinking Neurasthenia) *vs.* ZEPPIA

J+	J–
Acts individualistically	Goes with group
Passively, pedantically obstructs	Co-operative in enterprises
Slow to make-up his mind	Decisive in thinking
Inactive, meek, quiet	Active, assertive
Neurasthenically, neurotically fatigued	Vigorous
Self-sufficient	Attention-getting
Evaluates intellectually	Evaluates by common standards
Personal, peculiar interests	Common 'wide' interests

Factor-K : COMENTION *vs.* ABCULTION

K+	K–
Intellectual interests, analytical	Unreflective, narrow
Polished, poised, composed	Awkward, socially clumsy
Unshakeable	Easily socially embarrassed
Independent-minded	Going with the crows
Conscientious, idealistic	Lacking sense of any social duty
Aesthetic and musical tastes	Lacking aesthetic interests
Introspective, sensitive	Crude

Factor L : PROTENSION (Paranoid Trend) *vs.* INNER RELAXATION

L+	L–
Suspicious	Trustful
Jealous	Understanding
Self-sufficient, withdrawn	Composed, socially at home

Factor-M : AUTIA *vs.* PRAXERNIA

M+	M–
Unconventional, eccentric	Conventional
Aesthetically fattidous	Uninterested in art
Sensitively imaginative	Practical and logical
'A law unto himself', undependable	Conscientious
Placid, complacent, absorbed	Worrying, anxious, alert
Occasional hysterical, emotional upsets	Poised, tough control
Intellectual, cultured interests	Narrower interests

Factor-N : SHREWDNESS *vs.* NAIVETY

N+	N–
Polished, socially skillful	Socially clumsy, awkward
Exact mind	Vague and sentimental mind
Cool, aloof	Company-seeking
Aesthetically fastidous	Lacking independence of taste
Insightful self-regarding	Lacking self-insight
Insightful regarding others	Naive

Factor-O : GUILT PRONENESS *vs.* CONFIDENCE

O+	O–
Worrying	Self-confident
Lonely	Self-sufficient
Suspicious	Accepting
Sensitive	Tough
Discouraged	Spirited

CHAPTER 7

Measurement of Memory

Memory is defined as the mental capacity or faculty of retaining and reviving impressions, as well as of recalling pervious experiences. This capacity is possessed by every individual. It can be measured with reference to the length of time over which recollection extends. Once retained, it can remain perpetual if desired.

THE PROCESS OF MEMORY

Suppose that a teacher has set aside half an hour during which his pupils have to learn a poem with a view to writing it out on the following day. The first stage involves learning the poem, second retaining it overnight, and third remembering it and writing it out. Thus three stages are involved in memory building, though the first may often consist of experiencing some incident or situation (which we later recall) rather than deliberately learning it.

LOGICAL MEMORY DEPENDENT UPON GENERAL INTELLIGENCE

It used to be thought that memory was an independent faculty of the mind, indeed some still write and speak as if this were so. But experimental evidence now strongly suggests that logical memory, that is , the kind of memory we have for meaningful material such as the gist of a story, depends mainly upon general intelligence. Nor is this surprising when it is remembered that the initial stage of the memory process is learning, and that if there is insufficient intelligence. Nor is this surprising when it is remembered that the initial stage of the memory process is learning, and that if there is insufficient intellectual growth for learning, and that if there is insufficient intellectual growth for learning, there can be no retention or remembering. In contrast, however, there is clear evidence of rote

memory abilities that are involved in remembering groups of numbers of sentences of varying lengths, but they do not have much bearing on learning, retention, or recall, in everyday life.

The learning of any material is aided by practice in handling that particular type of item. Practice usually brings success and the latter gives confidence; practice also gives experience in organising, and searching for meaning in, that kind of material. But practice effects in learning one type of material do not necessarily transfer to other material.

Retention

The second stage in the memory process is retention. This is an unconscious activity. It is probable that as a result of experience and learning, our brains actually undergo changes, so that certain of the nerve cell are more likely to be excited again given the right stimulus. Retention, then, seems to be dependent upon chemical or physiological changes, and so long as these remain unimpaired we retain the power to remember each specific thing we have learnt.

Most material that we learn is slowly forgotten, presumably because these changes in the brain do not persist indefinitely. However, some things seem never to be forgotten. Others become ineffective, in the sense that we cannot recall them under normal circumstances. But apparently such changes as take place have not been obliterated completely, for when we have a high temperature or are under the influence of drugs we can remember incidents from the past that cannot normally be brought into consciousness. Note though, that there may be considerable discrepancies between what was originally learnt and what is later recalled.

Retention can be measured by finding out how much the subject can remember of what he has learnt. There are three ways of doing this. first, he may reproduce the material he has memorised as he does in the usual type of school examination. Second, he may recognise a statement as true or false, or say if some item belongs to a given context when the stating method To illustrate this, suppose a poem was learnt until it could be reproduced perfectly. After a period it is re-learnt until it can be reproduced without error once more. The difference in the time required to learn the poem originally, and the time required to re-learn it, gives a measure of the amount

of retention. We find that when material cannot be recalled it can often be recognised, and when neither of these processes can be accomplished, re-learning shows that some retention has taken place.

Remembering

Remembering must involve either recall or recognition. The former necessitates the reproduction of material that is not actually present before the senses at the moment, as when we write out the verses of a poem that we have learnt. But in recognition the material is presented, and the subject has to identify it as something that has been perceived before. This process is involved in answering the question :

In which year did William the Conqueror arrive in England ?

597, 1588, 1666, 1492

where the candidate has to recognise and underline the correct date.

Recall is more difficult than recognition and is a more complex process, greatly affected by emotions and motivation, both-at the time of learning and subsequently. Thus there may be considerable discrepancies between what was originally perceived and what is later reproduced.

TRAINING THE MEMORY

A question of importance is whether or not memory can be trained to operate more effectively. In answering this, one should again consider the three stages usually involved in the memory process. The learning stage can be helped by better management, that is observing the general principles and procedures. But in so far as learning depends on intelligence this cannot be easily raised. Retention can be aided by thorough learning, by studying at a suitable period of the day, by constantly reviewing, and by avoiding circumstances likely to cause interference.

Deficiency or absence of attention denotes that you have a weak memory. Your mind is weak in apprehending what you see, and is unable to retain in mind the objects seen. The objects may be pictures, figures or words. You can remember if you pay concentrated attention even for a few seconds on what you hear, see, touch, feel or taste by your senses. Two examples are given below, for example, to test your memory yourself.

Examples :

1. *Study the words given below for 2 minutes.*

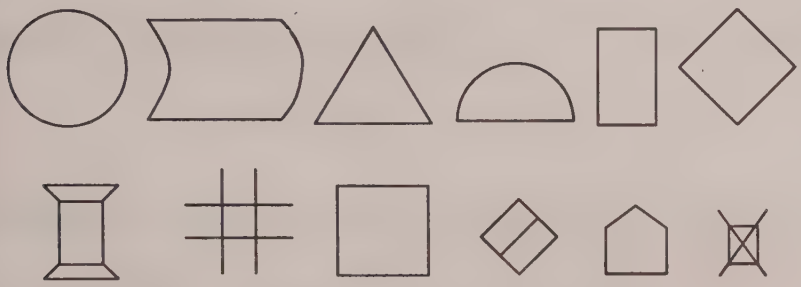
And write down as many words as you can retain in your mind on the blank lines.

1.	11. .....
2.	12. .....
3.	13. .....
4.	14. .....
5.	15. .....
6.	16. .....
7.	17. .....
8.	18. .....
9.	19. .....
10.	20. .....

The number of words may be increased after success in the first test .....

2. *Look at the figure drawn below for 2 minutes*

And cover them with a piece of paper, and draw as many diagrams as you retain in your memory. It is not necessary that they are reproduced in any prescribed order in the space box.



Your score .....
Average score .....
Superior .....
Good .....
Fair .....
Poor .....

CHAPTER 8

General Ability Tests

1. What is that which is found in HANDS, HEAD and HAIR but never in the KNEE ?
2. What is that which is once in a MAN and WOMAN, twice in an INFANT but never in a BOY or GIRL ?
3. What is that which you find once in your TEA, twice in you COFFEE, but miss in your MILK ?
4. What is that which occurs once in MARCH, and in MAY but never in APRIL ?
5. What is that which occurs once in TUESDAY, twice in WEDNESDAY, but never in any other weekdays ?
6. What is that which you can find in Bombay and Bhopal ?
7. What is that which can be found on SATURDAY and SUNDAY ?
8. State the serial number of the choice which provides the correct answer in the following questions :

B, D, F, G, H, N

(*a*) UST, (*b*) END,
(*c*) ROW, (*d*) EAR.

Complete the following group of letters to form words which are defined by other words shown against them. The missing letters are indicated by crosses (X).

9. XXPOSE stands for RESIST.
10. XXXPOSE stands for MAKE UP.
11. XXXPOSE stands for ASSUME.
12. XXPOSE stands for PLACE UPON.

13. What is the odd one out ?

(*a*) Havildar (*b*) Lieutenant
(*c*) Captain (*d*) LAC
(*e*) Brigadier.

14. Which choices mentions the last letter of the word rearranged from the following jumbled spelling

RAMPLAITI..... (Not biased)

(*a*) B (*b*) I
(*c*) L (*d*) R

15. IRON is to METAL as BARLEY is to .....

(*a*) Food (*b*) Nail
(*c*) Cereal (*d*) Wheat

16. The following jumbled words can be arranged to form a sensible sentence by eliminating an extra word.

NEVER WOOD BURN DRY CAN EASILY

(*a*) Y (*b*) N
(*c*) R (*d*) D

17. Pick up the odd man out in the following group :

(*a*) Telephone (*b*) Battery
(*c*) Transistor (*d*) Gear

18. Only birds have feathers. If the statement is **true**, which of the following statement is automatically true ?

(*a*) Most birds have white feathers.
(*b*) Birds fly in the air.
(*c*) All feathers are light.
(*d*) Snakes do not have feathers.

19. Which number is out of step with the others in the following digit groups ?

136, 532, 640, 514, 273, 262, 802

(*a*) 640 (*b*) 514
(*c*) 433 (*d*) 273

20. Write the number of the object which is different from others.

(*a*) ship (*b*) car
(*c*) motor cycle (*d*) bicycle

21. There is some similarity in three of the following groups, but the fourth is different in some way. State the serial number of the different group.

(*a*) C D F G H (*b*) H I K L M

(*c*) K L N O P (*d*) S T U W K

22. Which letter is out of place in the following series ?

I M L T N K O J

(*a*) O (*b*) M

(*c*) T (*d*) L

Directions : *In the following exercises, each one gives an incomplete statement of fact. Incomplete in this sense that it does not give a reason to support that the statement describes truth and nothing but truth. In your answer, you have to give the correct reason by choosing one out of the several answers, given below each statement. Tick the correct answer.*

23. Bombay is famous because :

(*a*) It is a metropolitan city

(*b*) It has been the Gateway of India for ancient mariners.

(*c*) It is the state-capital of Maharashtra

(*d*) All the amenities of metropolitan life are available there.

24. "A starving or a sick beggar should be given alms, because ....."

(*a*) A beggar, too, has a right to live a happy life.

(*b*) Alms giving or begging is not forbidden by law.

(*c*) Beggars should be well-fed and healthy to be encouraged to work

(*d*) Every human being is a child of God, and hence our brother, who must be helped by a brother.

25. "Children must play field games, because .....".

(*a*) It is a good pastime.

(*b*) Each evening is meant for out door games.

(*c*) Games provide study health to body and skill to mind of the children

(*d*) They enjoy play in company with others.

26. "For success in life, you should .....".

(*a*) Work hard

(*b*) Have money to fall back upon

(*c*) Be honest and sincere
(*d*) Have many friends.

27. "Boys and girls should never smoke because .....".
(*a*) They are young in age
(*b*) Father will give them a sound thrashing
(*c*) It is a foreign habit.
(*d*) It is injurious for health.

28. "Steam burns the body more severely than boiling because .....".
(*a*) It pierces through skin-pores and water falls out.
(*b*) Its temperature is higher than that of boiling water.
(*c*) Steam can drive engines, but boiling water cannot.
(*d*) Steam has latent heat, not present in boiling water.

29. "Father reads newspapers daily in the morning because .....".
(*a*) It is his old habit
(*b*) It is natural for educated men
(*c*) He is interested in advertisements
(*d*) He wants to know fresh news

30. "Schools are closed on all Sundays of the year, because .....".
(*a*) It is the law of all nations of the world
(*b*) It is the day fixed for social calls
(*c*) The students and teachers must have a weekly rest day.
(*d*) All shops are closed on Sunday.

31. "Children should not see television regularly for long time because .....".
(*a*) It weakness children's eye-sight.
(*b*) They find interest in cartoon pictures only, which appear for a short time.
(*c*) Movies are better pastime than T.V.
(*d*) Children are subject to moral effect of negative character.

32. "Prices rise every year in the month of March, because .....".
(*a*) They grow like children in the month of birth every year.
(*b*) Supply of goods is short in March every year
(*c*) New taxes on commodities raise the prices up
(*d*) March is the month of black-marketing.

Directions : *Which choice answers the following questions best ?*

33. Delhi is famous because :
    (*a*) Most of the V.I.P's live in it
    (*b*) All the amenities of life are abundantly available in it.
    (*c*) It is the capital of India
    (*d*) It is a very modern city.

34. Beggars should not be given alms because
    (*a*) It is forbidden by law
    (*b*) Many beggars indulge in evil activities
    (*c*) Beggars should be encouraged to work
    (*d*) It is a very bad habit.

35. Many people like to travel by air because
    (*a*) All the VIP's travel by air
    (*b*) Aeroplanes travel much faster than trains
    (*c*) Air travel is very delightful
    (*d*) Meals are served free on aeroplanes.

36. A policeman wears a uniform because
    (*a*) It gives him a smart appearance
    (*b*) It is provided by the government free of cost
    (*c*) He can be recognised easily
    (*d*) It scares away criminals.

37. Children should not smoke because
    (*a*) It is prohibited by law for children
    (*b*) It is not recommended
    (*c*) It is harmful to health
    (*d*) It is a bad habit.

38. People wear dark glasses in summer because
    (*a*) They want to disguise themselves
    (*b*) The want to look smart
    (*c*) They want to protect their eyes from dazzling light.
    (*d*) They can easily afford these.

39. Electricians wear rubber soled shoes because
    (*a*) They cannot afford leather shoes.
    (*b*) Rubber is an insulator
    (*c*) These are lighter than leather soles
    (*d*) These are more durable than leather shoes.

40. In order to achieve success in life, one should
    (*a*) Have contacts with influential person
    (*b*) Be honest and sincere
    (*c*) Have plenty of money
    (*d*) Work hard and continuously.

41. Children read comics because
    (*a*) They contain pretty pictures
    (*b*) They teach morals
    (*c*) They amuse the children
    (*d*) They are very cheap.

42. An educated wife is useful because
    (*a*) She is loyal
    (*b*) She is more beautiful than others
    (*c*) She makes an all round better housewife
    (*d*) She is faithful
    (*e*) She can do an outside job.

43. The new generation of college students is becoming rash because
    (*a*) Quality of college teachers is substandard.
    (*b*) Students have more energy than their educational curricula can utilise
    (*c*) Students are influenced by cheap literatures, movies, politicians and get more leisure from studies
    (*d*) The type of education provided is not ideal.

44. Children should not be allowed to see movies too frequently, because
    (*a*) They impair eyesight
    (*b*) It means unnecessary expenses
    (*c*) The movies are injurious to the morals of young folks and affect their studies adversely
    (*d*) They are subject to easy effect of negative character.

45. Many people smoke cigarettes because
    (*a*) It is a matter of habit for them
    (*b*) They have spare money to spend
    (*c*) They cannot concentrate on work since they think that release the nerves and refreshes the brain
    (*d*) It is a fashionable activity.

46. More scooters are produced in India the motor cars because
(*a*) It is easy to learn scooter riding
(*b*) Road Tax is less on scooters than on cars
(*c*) They are comparatively cheaper than cars
(*d*) Scooters consume less amount of petrol.

47. Prices have a tendency to rise in most countries because
(*a*) People are becoming rich
(*b*) The economies are developing
(*c*) There is greater production of human heads than goods
(*d*) Standard of living is improving.

48. Burns caused by stream are more severe than those caused by boiling water because
(*a*) Steam is gas and penetrates the body rapidly
(*b*) Steam pierces through the skin quickly
(*c*) Steam has latent heat which is not present in boiling water
(*d*) The temperature of steam is higher than that of boiling water
(*e*) Steam is so hot that it is used even in steam engines.

49. If 4 men start from a point and cover 16 miles in 4 hours in the same direction, how many miles will one man cover in one hour ?
(*a*) 5 miles (*b*) 6 miles
(*c*) 4 miles (*d*) 3 miles.

50. Rani walks 9 kilometers due East and then 12 kilometres due South. How far is she from the starting point ?
(*a*) 20 kms (*b*) 18 kms
(*c*) 15 kms (*d*) 10 kms.

51. A & B start walking in opposite directions. A covers 3 miles and B overs 4 miles. Then A turns right and walks 4 miles and B turns left and walks 3 miles. How far is each from the starting point ?
(*a*) 8 miles (*b*) 5 miles
(*c*) 4 miles (*d*) 6 miles.

52. A man faces north and covers 12 km, turns west and covers 6 km, then turns South and covers 3 km, and turns west again and covers 6 km. How far is he from the starting point ?
(*a*) 18 km (*b*) 10 km
(*c*) 18 km (*d*) 12 km.

53. Which will show greater reading on the spring balance a kilogram of cotton or a kilogram of wheat ?
(*a*) Cotton (*b*) Neither
(*c*) Wheat

54. It takes two minutes to boil an egg. How many minutes will it take to boil 5 eggs together ?
(*a*) 30 (*b*) 10
(*c*) 2

55. A man is always ..... than his son.
(*a*) taller (*b*) older
(*c*) darker (*d*) wiser

56. If 15 cows eat 15 bags of fodder in 15 days, in how much time will 1 cow eat 1 bag ?
(*a*) 13 days (*b*) 1/15 day
(*c*) 1 day

57. Ramesh will be 4 times as old in 30 years as he is now. How old is Ramesh now ?
(*a*) 34 years (*b*) 30 years
(*c*) 26 years (*d*) 10 years

58. A clock seen through the mirror reads a quarter to nine. What is the actual time ?
(*a*) 9.30 (*b*) 3.15
(*c*) 1.15

59. If 7th of the month falls 2 days preceding Sunday, what day of the week will follow the 27th of the month ?
(*a*) Saturday (*b*) Friday
(*c*) Thursday

60. Name the letter which precedes the letter which is to the right of the central letter in the word STIMULATE ?
(*a*) M (*b*) U
(*c*) L

61. Monday dawned 3 days preceding day before yesterday. What day will dawn two days after tomorrow ?
(*a*) Wednesday (*b*) Tuesday
(*c*) Monday

62. If the day that will dawn 2 days after tomorrow is Friday, what day of the week dawned two days before yesterday ?
(*a*) Wednesday (*b*) Friday
(*c*) Thursday (*d*) Sunday

63. Sushil and Kiran are children of Ram. Ram is the father of Sushil and Kiran is not the son of Ram. What is Kiran to Ram ?
(*a*) Son-in-law (*b*) Niece
(*c*) Daughter (*d*) Mother

64. A is the cousin of the father of B. What is B to A ? b's son is the cousin of A's son. A has no brother. What is B to A ?

65. X is father of Y and Z but Y and Z are not brothers. What is the relationship of Y and Z ?

66. Looking at a portrait, a man said, "That man's father is my father's son. Brothers and sisters I have none". At whose portrait was the man looking ?

67. A's mother is aunt of my daughter. I have no nephew. What is A to me ?

68. Name the appropriate choice :
Dreams of this world are wrought by more prayer than things.
(*a*) W (*b*) P
(*c*) T (*d*) D

69. Re-arrange the following jumbled words to form sensible sentences :
(*a*) Noise vessels make much empty
(*b*) Broke the open the thief door
(*c*) Mosquitoes is malaria by spread
(*d*) The seven day old teachers off the strike called
(*e*) Nine saves in a many time stitch
(*f*) Too it is to late never mend it
(*g*) Is densest at water 0°C
(*h*) Good vitamins are for health.

70. If Thursday comes three days after Monday, write 'Wrong' unless Saturday precedes Friday, in which case write 'Right'.
(*a*) Right (*b*) Wrong

71. If ice is heavier than water write 'Yes' unless milk is denser than water, in which case write 'No'.
(*a*) Yes (*b*) No

72. If a Maj. General is junior to Lt. General, write Lt. Col., unless a Sqd. leader is senior to a Wing Commander, in which case write Gp. Capt.

(*a*) Gp. Capt. (*b*) Lt. Col.

73. (1) Some trees are tall.
(2) All tall trees are pine.
(3) Therefore all trees are pines.

(*a*) True (*b*) False

74. Ball-point pens have became popular because :

(*a*) those are attractive to look at.
(*b*) one can write easily with them.
(*c*) they are easy to handle.

75. A number banks have been nationalised :

(*a*) as a modern craze.
(*b*) as they became very big for private control.
(*c*) so that funds can be utilized for development projects.

76. Examinations are held :

(*a*) to find out depth of learning of the students.
(*b*) to find how fast the students can write.
(*c*) to terrorise the students.
(*d*) to improve discipline.

77. A train starts with a whistle to :

(*a*) inform the Station Master.
(*b*) warn the passengers.
(*c*) warn other engine drivers.

78. Leather is considered as the best material for shoes, because leather is :

(*a*) water proof (*b*) easily available
(*c*) flexible and durable (*d*) durable.

Directions. *Insert the word that means the same as the two words outside the brackets.*

79. **rank (.....) mail**

80. **wine shop (.....) rod**

81. **an animal (.....) tolerance**

Directions. *Rearrange the groups of letters in the following 82 to 86 questions) in such a way that they could form meaningful words.*

82. VERPOYT ETTASNEMT SHRASENS

83. TUOELT WDNIWO RETELT

84. EGNAEGNETM

(*a*) T (*b*) N
(*c*) G (*d*) E

85. NCMMOAD

(*a*) C (*b*) A
(*c*) O (*d*) D

86. IFULTETNAN

(*a*) E (*b*) N
(*c*) T (*d*) I

87. In a party of 50 there are 16 more men than woman. How many women are there ?

88. A cyclist started from a point and drove 6 miles south, he then turned left and drove 3 miles, then turned right and drove 4 miles. What would be the last direction of his cycling ?

89. A man is 10 years older than his wife and she is 16 years older than her son. If the son would be 25 year in 8 years time, what is the present age of his father ?

90. A contractor has 20 men who work eight hours a day to finish a qiece of work in 28 days. At the end of 18 days, only one-third of the work is done. He engages more men and all of them now work for nine hours a day. What is the least number of additional men that he must engage if the work is to be finished as scheduled ?

(*a*) 64 (*b*) 40
(*c*) 44 (*d*) 60

91. At a party, every one must shake the hand of the other. If the total number of handshakes is 66, there are — people at the party.

(*a*) 18 (*b*) 9
(*c*) 12 (*d*) 15

92. A merchant buys $4\frac{3}{4}$ tonnes of scrap at Rs. 20 per kg. Assuming a 20 per cent wastage, at what price per kg must be sell it to earn a profit of 25 per cent ?
(*a*) Rs. 31.20 (*b*) 31.25
(*c*) Rs. 25 (*d*) 26.25

93. X is an opportunist. This conclusion can be logically deduced from which of the following statements ?
(*a*) Everyone who is an opportunist pleases the head of the government; X pleases the head of the government.
(*b*) At all state functions, everyone who is not an opportunist is seated in one of the back rows; X is seated in the front row at all state functions.
(*c*) The majority of the opportunities belong to Ram Desh; X belongs to Ram Desh.
(*d*) If X was not asked to join the Cabinet, then he is not an opportunist. X was asked to join the Cabinet.

Directions : *Questions 94 to 96 are based on the following (1) All Xs are philosophers; No Ys are philosophers; (3) Some philosophers are doctors; (4) Some teachers are Xs; (5) Some doctors are Ys.*

94. If all women are Xs, which of the following must be false ?
(*a*) All women are teachers.
(*b*) No women are doctors.
(*c*) No women are philosophers.
(*d*) All women are doctors.

95. If all teachers are doctors, which of the following can be deduced ?
(*a*) Some Ys are Xs.
(*b*) Some teachers are philosophers.
(*c*) Some Xs are not teachers.
(*d*) Some Ys are not doctors.

97. If X is an editor then he must be an intellectual. This statement can be deduced from.
(*a*) Only editors are intellectuals.
(*b*) All intellectuals are editors.
(*c*) None but the intellectuals are editors.
(*d*) Some editors are intellectuals.

98. Ram must be an athlete; he is over six feet tall. Which choice supports the above conclusion ?
(*a*) No person other than those over six feet tall are athletes.
(*b*) All athletes are over six feet tall.
(*c*) Only those who are over six feet tall are athletes.
(*d*) Only athletes are over six feet all.

99. If Ram lives on the first floor, then Sham lives on the second Sham does live on the second floor. Therefore
(*a*) Ram does not live on the first floor.
(*b*) Ram may or may not live on the first floor.
(*c*) Ram lives on the first floor.
(*d*) None of the above results can be deduced.

100. The occurrence of P causes the occurrence of either Q or R.P. has occurred. Therefore
(*a*) If R has occurred, Q must not have occurred.
(*b*) If Q has occurred, R must not have occurred.
(*c*) Both Q and R may have occurred.
(*d*) None of the above results can be deduced.

101. Based on the conversation between X and Y state which one of the choices can be inferred. X : I just heard that Ram failed in the IAS exam. Y : Impossible : Ram was very witty.
(*a*) Y thinks X is telling a lie.
(*b*) X knows Ram has failed in the IAS exam.
(*c*) Y assumes no witty individual can fail in the IAS exam.
(*d*) X thinks Ram has failed in the IAS exam.

102. P occurs only when Q occurs. Q has occurred. Therefore
(*a*) P has not occurred. (*b*) P may have occurred.
(*c*) P must have occurred. (*d*) None of the above.

103. In a class, Hari secures higher marks than Roshan. Ram Lal secures more marks than Hari. Who secures the lowest marks ?
(*a*) Roshan (*b*) Hari (*c*) Ram Lal

104. In an establishment, Suresh holds a senior position to Ashok and Madan holds a junior most position ?
(*a*) Roshan (*b*) Madan (*c*) Ashok

105. A is older than B and B is older than C. Who is the youngest ?
(*a*) A (*b*) C (*c*) B

106. Sita, Rita and Neeta are etudying in the same class.
(1) Sita is brighter than Rita
(2) Rita is weaker than Neeta
Therefore the relative positions of Sita and Rita are as under :
(a) Neeta is brighter than Sita
(b) No definite conclusion can be made.

107. Name the choice which provides the correct word to fill in the blank space in the given sentence.
There was an atmosphere of ..... in the meeting.
(*a*) Peas (*b*) Piece
(*c*) Peace

108. Name the choice which provides the answer.
The room was illuminated by the early ..... of the sun.
(*a*) Raz (*b*) Race
(*c*) Rays (*d*) Raise

109. The Tajmahal is a wonderful .....
(*a*) Cite (*b*) Sight
(*c*) Site

110. You are Assistant General Manager in a Public Sector Undertaking. Your General Manager gives you a draft copy of his presidential address and asks you to make suggestions, if any. You find some serious flaws in the draft speech. What is the best course open to you ?
(*a*) Keep quiet about it and return the speech.
(*b*) Tell your General Manager that the speech is O.K.
(*c*) Make suggestions frankly and clearly but politely.
(*d*) Tell him that you are unable to make any suggestions.

111. What would you do if you see a fellow passenger fall out of a running bus ?
(*a*) Raise a hue and cry and inform the other passengers,
(*b*) Do not bother about it as it is none of your business.
(*c*) Stop the bus and give first aid to the passenger,
(*d*) Inform the conductor.

112. Mr. A feels that a person can be successful in life only if —
(*a*) One has enough money to start business,
(*b*) One has luck in favour,
(*c*) One works hard in any vocation one adopts.

113. A husband always has .....
(*a*) Job (*b*) Home
(*c*) Wife (*d*) Children

114. A railway station always has .....
(*a*) A tea stall (*b*) Railway line
(*c*) A train (*d*) Coolies

115. A dog always has .....
(*a*) a bone (*b*) a kennel
(*c*) a master (*d*) a tail

116. A book always has .....
(*a*) An author (*b*) Price
(*c*) Preface (*d*) Title

117. A man can always ....., but not an animal.
(*a*) hear (*b*) see
(*c*) reason (*d*) listen

118. A cinema hall always has .....
(*a*) Carpets (*b*) people
(*c*) screen (*d*) posters

119. In a discussion with your colleagues, when you find that you are losing ground, you could —
(*a*) Leave the discussion.
(*b*) Accept the views of your opponents.
(*c*) Try to convince the opponents about your views.
(*d*) Try to enforce your views by any means.

120. You are an executive in a firm. You have an urgent piece of private job. What will you do ?
(*a*) Ask someone from the office to do it free for you.
(*b*) Call someone who knows the job outside your company.
(*c*) Pay one of your office workers to do it in leisure time.

121. When the bus reaches your stop, you haven't purchased the ticket because of heavy rush. What will you do ?
(*a*) Jump our quickly to avoid embarrassment.
(*b*) Call the conductor, give him the money, and get ticket.
(*c*) Hand the money to someone sitting nearby to the conductor.

122. You have heard rumours that your neighbour's husband is carrying an affair with other women. One day if his wife asks

you to say about what you know, what will you do ?

(*a*) Try to be tactful, and tell her only part of the story.

(*b*) Say that you haven't heard anything.

(*c*) Tell her everything heard by you.

123. You are walking down the street and suddenly you see two hundred-rupee notes fluttering towards you on the pavement. What action will you take ?

(*a*) Give it to a beggar.

(*b*) Decide to pocket it yourself, as you are very needy.

(*c*) Deposit the money in the nearest police station.

(*d*) Leave it their without touching it.

124. Arrange the words in the following group in a descending order :

(*a*) toe (*b*) ankles

(*c*) head (*d*) heart

(*e*) neck

125. Arrange the following in their natural order :

(*i*) (*a*) doctor (*b*) Medicine (*c*) fever

(*ii*) (*a*) Go (*b*) Stop (*c*) Look

126. If the words in the following groups are arranged in natural sequence, which would be the middle word ?

(*a*) village (*b*) house (*c*) fever

(*d*) state (*e*) country

127. Arrange the following groups in descending order :

(*i*) (*a*) Warm (*b*) Freezing (*c*) Hot

(*d*) Cold (*e*) Boiling (*f*) Luke warm

(*ii*) (*a*) shoe (*b*) hide (*c*) calf

(*d*) leather (*e*) bullock

128. Arrange the following in their natural sequence :

(*a*) birth (*b*) youth (*c*) death

(*d*) marriage (*e*) old age

129. Arrange in ascending order :

(*i*) (*a*) triangle (*b*) line (*c*) angle

(*d*) rectangle (*e*) point

(*ii*) (*a*) Country (*b*) Village (*c*) District

(*d*) Street (*e*) Town

130. Write the letter which follows the letter which is midway between E and Q.

131. If the letter P is between the letters L and T, write the letter F; otherwise write the letter which precedes it.

132. Name the fourth letter before the last vowel.

133. How many threes in the following series are preceded by sixes and followed by two's

1 5 6 3 2 7 2 6 3 3 6 2 36 2 3 6 25 7 6 3 2 8 9

Answer the following question on the integers from 0 to 9.

134. Which is the smallest even number of four digits ?

Arrange the following words in the sequence in which they occur in the dictionary :

135. (*a*) Fallible (*b*) Follow (*c*) False
(*d*) Falcon (*e*) Fanciful

136. (*a*) Muscular (*b*) Multilate (*c*) Municipal
(*d*) Confine (*e*) Confiscate

137. (*a*) Confirm (*b*) Confuse (*c*) Confound
(*d*) Confine (*e*) Confiscate

138. (*a*) Firestone (*b*) Friend (*c*) Fierce
(*d*) Friendship

Directions : *Re-arrange the following words as they occur in the dictionary and reverse the order :*

139. (*a*) Cupboard (*b*) Costume (*c*) Customer
(*d*) Cutlery (*e*) Cunning (*f*) Cultivate

140. Complete the analogy :

STANDARD is to *DETRAIN* as *STAND* is to .....

141. No monkey can sing but some monkeys can talk.
If the above statement is correct, then which of the following conclusions is valid ?
(*a*) All monkeys can dance.
(*b*) Some monkeys may sing
(*c*) All monkeys can't sing
(*d*) All monkeys can't talk.

142. Worms can crawl but birds can only fly and hop. If the above statement correct, which of the following statements is valid ?
(*a*) Birds can talk.
(*b*) Some birds can crawl
(*c*) Birds can't crawl
(*d*) Worms come out during rains.

143. If 7 garments hung together are dried up in two and a half hours, in how much time can 14 garments be dried up together ?
(*a*) 2 hours (*b*) 10 hours
(*c*) $2\frac{1}{2}$ hours (*d*) 5 hours

144. *HEMANT* is younger than *SONU*
SONU is younger than *HARMEET*
HARMEET is older than *SONU*
If the first two statements above are true, the third is .....
(*a*) False (*b*) Uncertain
(*c*) True

ANSWERS

1. (H)	2. (N)	3. (E)	4. (M)	5. (E)
6. (B)	7. (S)	8. (d)	9. (OP)	10. (COM)
11. (SUP)	12. (IM)	13. (*d*)	14. (*c*)	15. (*c*)
16. (*c*)	17. (*d*)	18. (*d*)	19. (*d*)	20. (*a*)
21. (*d*)	22. (*c*)	23. (*b*)	24. (*d*)	25. (*c*)
26. (*c*)	27. (*d*)	28. (*d*)	29. (*d*)	30. (*c*)
31. (*a*)	32. (*c*)	33. (*c*)	34. (*c*)	35. (*b*)
36. (*c*)	37. (*c*)	38. (*c*)	39. (*b*)	40. (*d*)
41. (*c*)	42. (*c*)	43. (*c*)	44. (*c*)	45. (*c*)
46. (*d*)	47. (*c*)	48. (*c*)	49. (*c*)	50. (*c*)
51. (*b*)	52. (*c*)	53. (*b*)	54. (*c*)	55. (*b*)
56. (*b*)	57. (*d*)	58. (*b*)	59. (*b*)	60. (*b*)
61. (*b*)	62. (*c*)	63. (*c*)	64. Sister	
65. Brother and Sister		66. Son's	67. Niece	68. (*c*)

69. (*i*) Empty vessels make much noise.
(*ii*) The thief broke open the door.
(*iii*) Malaria is spread by mosquitoes.
(*iv*) The teachers called off the seven day strike.
(*v*) A stitch in time saves nine.

(*vi*) It is never too late to mend.
(*vii*) Water is densest at 0°C.
(*viii*) Vitamins are good for health.

70. (*b*) 71. (*a*) 72. (*b*) 73. (*b*) 74. (*c*)
75. (*c*) 76 (*a*) 77. (*b*) 78. (*c*) 79. (Post)
80. (Bar) 81. (Mute) 82. Poverty, Statement, Rashness
83. Outlet, Window, Letter 84. (*iv*) 85. (*i*)
86. (*iv*) 87. (17) 88. (South) 89. (43) 90. (*c*)
91. (*c*) 92. (*b*) 93. (*b*) 94. (*c*) 95. (*d*)
96. (*b*) 97. (*c*) 98. (*d*) 99. (*b*) 100. (*c*)
101. (*c*) 102. (*b*) 103. (*b*) 104. (*b*) 105. (*b*)
106. (*b*) 107. (*c*) 108. (*c*) 109. (*b*) 110. (*c*)
111. (*c*) 112. (*c*) 113. (*c*) 114. (*b*) 115. (*d*)
116. (*d*) 117. (*c*) 118. (*c*) 119. (*c*) 120. (*b*)
121. () 122. (*b*) 123. (*c*) 124. [(*c*) (e) (d) (b) (a)]
125. (i) [(*c*) (*a*) (*b*)] (*ii*) [(*b*) (*c*) (*a*)] 126. (*c*)
127. (i) [(*e*) (*c*) (*a*) (*f*) (*d*) (*b*)] (ii) [(*a*) (*d*) (*b*) (*e*) (*c*)]
128. [(*a*) (*b*) (*d*) (*e*) (*c*)]
129. (i) [(*e*) (*b*) (*c*) (*a*) (*d*)] (*ii*) [(*d*) (*b*) (*e*) (*c*) (*a*)]
130. (L) 131. (F) 132. (Q) 133. (2) 134. (1000)
135. [(*d*) (*a*) (*b*) (*c*) (*e*)] 136. [(*e*) (*d*) (*c*) (*a*) (*b*)]
137. [(*d*) (*a*) (*e*) (*c*) (*b*)] 138. [(*b*) (*c*) (*a*) (*d*)]
139. [(*d*) (*c*) (*a*) (*e*) (*f*) (*b*)] 140. DETAIN
141. (*d*) 142. (*c*) 143. (*c*) 144. (*c*)

CHAPTER 9

Comprehension and Thought Type Questions

Sometimes the examiners form their objective type questions on a story or a narrative passage. In such questions a bit of problem-solving technique is involved for comprehending a story.

Below is given an Aesop's fable called "Stone Soup" that requires a fair amount of problem-solving to interpret both the character actions and the author's intentions.

A poor man came to a large house during a storm to beg for food. He was sent away with angry words9 but he went back and asked, "May I at least dry my clothes by the fire, as I am wet from the rain ?" The maid thought this would not cost anything, so she let him come in.

Inside he told the cook that if she would give him a pan, and let him fill it will water, he would make some stone soup. Since this was a new dish to the cook, she agreed to let him make it. The man then got stone from the road and put it in the pan. The cook gave him some salt, peas, mint, and all the scraps of meat that she could spare to throw in. Thus the poor man made a delicious stone soup and the cook said, "Well done. You have made a silk purse from a sow's ear."

The story recounts a set of events that occurred as the poor man solved the problem of obtaining food. This set of events is the surface structure trace of the story. They are the result of the man's problem-solving activity.

To understand this story in any deep sense, the reader must construct an interpretation of these events, for example, in the following way :

1. The poor man is prevented from obtaining his initial goal.
2. He uses clever means to get part way to the initial goal.

3. He then uses an even cleverer means to reach the initial goal.

This understanding of the story is not a simple trace of how the events in the story are linked up, but rather a deep structure trace; that is, it is not at all obvious from the surface form of the story. The reader must reconstruct from the surface events how the poor solved the problems he faced in the story.

We give below a few exercises of this type. In these the interpretation ability of the candidate is put to test.

1. *Read the following passage* :

If the present trend of increase in population, urbanisation and industrialisation continues then the world in the year 2000 A.D. will be more crowded and more polluted than what it is at present. According to conservative estimates by 2000 A.D. population will increase to 6.5 billion to make the situation worst for the poor countries as 90 per cent of the increase in population will be in the poor countries. It will widen the gap between the rich and the poor countries. Due to tremendous increase in the population more area will be used for dwelling which may lead to reduction in the area under cultivation. So any increase in the agricultural production will not be due to increase in the area under cultivation but by advancement in the agricultural technology. With such a great pressure on land for habitation of people is bound to make environment unhygeinic particularly in big cities as the civic authorities may not be able to cope with the problem. Increased demand for consumer goods will not only gear production of the existing industries but also demand setting up of more industries. This will lead to greater pollution than every before. Scarcity of water in urban centres and in the industrial towns will be another problem of the future. If the present trend continues then hundreds of millions of people will have to sleep without having a meal.

Answer the following questions on the basis of information provided in the text.

1. In the year 2000 A.D. there will be need for
   (*a*) all the above
   (*b*) great efficiency of the civic authorities

(*c*) more industries
(*d*) increase in industrial production.

2. In the year 2000 A.D. demand for the consumer goods will
   (*a*) decline (*b*) increase
   (*c*) remain same (*d*) decrease.
3. Any increase in agricultural production will be because of
   (*a*) increase in the number of farmers
   (*b*) improvement in the agricultural technology
   (*c*) increase in the area under cultivation
   (*d*) government taking over all the land.
4. In the year 2000 AD the agriculture production is likely to
   (*a*) tremendously decrease (*b*) increase
   (*c*) remain same (*d*) decline.
5. If the present trend continues then the year 2000 A.D.
   (*a*) the world will be more polluted
   (*b*) billions of people will go without meals
   (*c*) the world will be more crowded
   (*d*) all the above are correct.
6. There will be scarcity of water in :
   (*a*) industrial towns (*b*) urban centres
   (*c*) seas (*d*) both a, b.
7. In the year 2000 A.D. the gap between the rich and the poor countries will
   (*a*) increase (*b*) decrease
   (*c*) remain same (*d*) disappear
8. The poor countries will countries to the increase of population to the extent of
   (*a*) 100 per cent (*b*) 10 per cent
   (*c*) 30 per cent (*d*) 90 per cent.
9. There will be the greatest increase in population figure in :
   (*a*) the poor countries (*b*) China
   (*c*) India (*d*) Russia.
10. The world population as it would be 2000 A.D. has been estimated by a method which may be called on the whole as :
    (*a*) strict (*b*) liberal
    (*c*) scientific (*d*) conservative.

11. The world population in 2000 A.D. will be
    (*a*) 65 billion (*b*) liberal
    (*c*) 6.5 million (*d*) 6.5 billion.
12. In the year 200 A.D. the world will be more
    (*a*) rich (*b*) crowded
    (*c*) populated (*d*) both (e) both (*b*) and (*c*).

Read the following passage :

Dancing in India has a long history of over 2,000 years. The themes of dance are mainly derived from legends, classical literature and mythology. Patronage of temples, kings and the nobles has helped in the preservation of this art. Indian dances can be conveniently classified as the folk and the classical. The classical forms of dances are based on ancient dance discipline and follow rigid rules for presentation both in the matter of style and dress.

Bharata Natyam, Kathak, Kuthakali, Kuchipudi, Odissi and Manipuri and among the more popular dances in northern India. Kathak is the main classical dance while Bhangra is a folk dance of Punjab. Kathak dance has been vitalized by the influence of the Mughals. Odissi is basically a temple dance once practised in Orissa but now it is quite popular on the stage in other parts of the country. Kuchipudi is the dance drama from Andhra Pradesh. Most of the themes of Kuchipudi are based on the epics like Mahabharata and the Ramayana. Kathakali has its origin in Kerala, while Bharata Natyam has roots in Tamil Nadu.

Answer the following questions on the basis of information provided in the text.

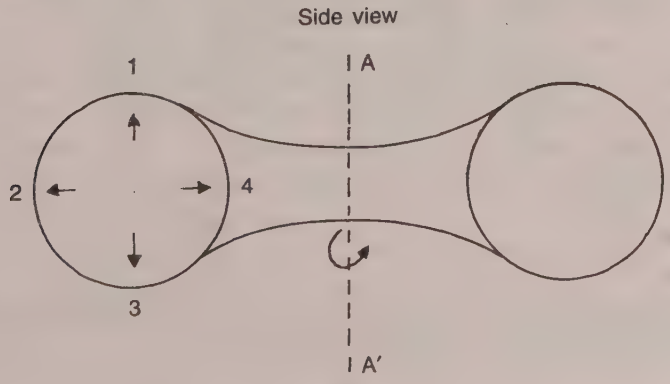
13. In the past dances received patronage of
    (*a*) the ruler (*b*) the noble
    (*c*) temples (*d*) All the above.
14. Kathak dance has been influenced by
    (*a*) the Mongols (*b*) the Pallavas
    (*c*) the Cholas (*d*) the Mughals.
15. Which of the following dance belongs to Northern India ?
    (*a*) Kathak (*b*) Bharata Natyam
    (*c*) Kathakali (*d*) Odissi.

16. The themes of the Kuchipudi are based on
    (*a*) the Shakuntala (*b*) the Ramayana
    (*c*) the Mahabharata (*d*) both (*b*) and (*c*)
17. The Bharata Natyam has its origin in
    (*a*) Andhra Pradesh (*b*) Bharat
    (*c*) Tamil Nadu (*d*) Nagaland
18. Which of the following dances originated in Orissa ?
    (*a*) Kathak (*b*) Manipuri
    (*c*) Odissi (*d*) Gharba
19. Which of the following has its origin in Kerala ?
    (*a*) Kathakali (*b*) Kathak
    (*c*) Bharata Natyam (*d*) Kuchipudi
20. Bhangra is a folk dance of
    (*a*) Bengal (*b*) Punjab
    (*c*) Delhi (*d*) Tamil Nadu
21. From where the Indian dances derive their themes ?
    (*a*) from legends (*b*) from classical literature
    (*c*) from mythology (*d*) all the above.
22. Dances in India have existed for
    (*a*) 5000 years (*b*) 200 years
    (*c*) 1000 years (*d*) over 2000 years

INTERPRETATION TESTS

Example of interpretative item (I)

One method of obtaining 'artificial gravity' in a space station is to have the station rotating about axis AA' as it revolves around the Earth.



23. The inhabitants of the space station would call which direction 'down' ?

(a) Direction 1 (b) Direction 2

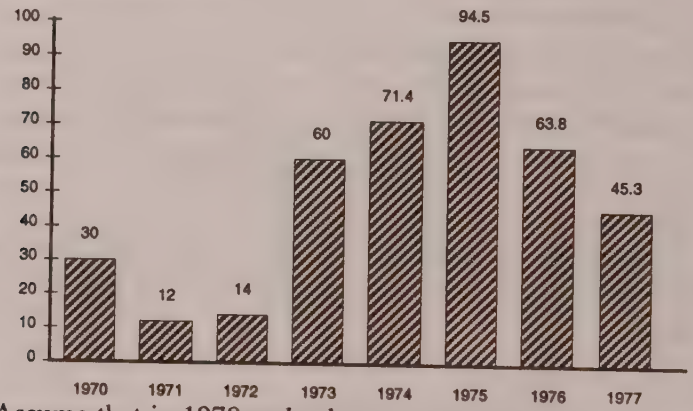
(c) Direction 3 (d) Direction 4

(e) Any one of the four depending on speed of rotation.

The multiple-type item that depends on interpretation is one of the most satisfactory of the items available to testers. The other types of items suffer from the key problem of being difficult to employ in the testing of complex learning and other problems quite extraneous to the business in hand such as the tendency towards a response 'set' where people tend systematically to choose 'True' or 'False' in a true/false question when they do not know the answer.

In the following questions you are asked to make inferences from the data which are given.

Direction : *Questions 24 to 27 are based solely on the graph below which shows oil imports by Cosmic International during 1970-77 in millions of tonnes.*



24. Assume that in 1978 and subsequent years oil imports were 10 per cent more than the average of oil imports during the preceding three yeas. Then oil imports in 1980 would most nearly be ..... per cent of the oil imports in 1973.

(*a*) 114 (*b*) 109

(*c*) 100 (*d*) 105

25. The percentage decrease in oil imports in 1976 when compared with oil imports in 1974 was nearest to :

(*a*) 26.5 (*b*) 23.6
(*c*) 24.6 (*d*) 25.6

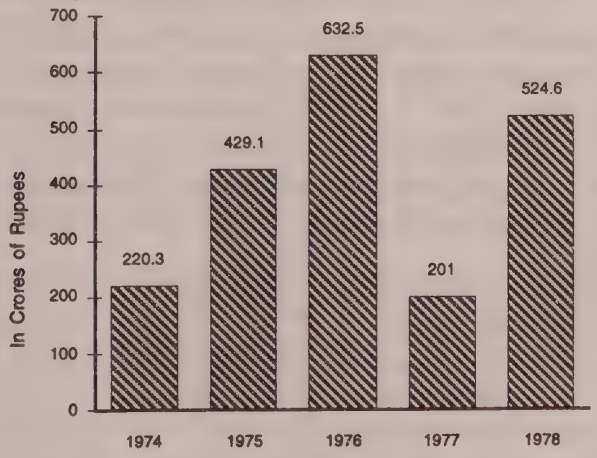
26. In ..... the percentage in oil imports was the lowest.
(*a*) 1976 (*b*) 1977
(*c*) 1971 (*d*) None of the above

27. In ..... there was a marked rise on oil imports.
(*a*) 1975 (*b*) 1974
(*c*) 1973 (*d*) None of the above

28. If TISSUE is coded as TJSRUF how will you code COFFEE ?
(*a*) CNFGED (*b*) CPFGEF
(*c*) CPFEEF (*d*) COGEF

29. If SEPARATE is coded as ESTEAPRA, how will you code VIOLENCE ?
(*a*) IVCNELOE (*b*) EVCINOEL
(*c*) IVLONECE (*d*) EVICINEOL

Directions : *Questions 30 to 33 are to be answered on the basis of the information contained in the chart. The chart shows the plan outlay covering the period 1974-78.*



30. What is the yearly average of the plan outlay for the period covered by the chart ?
(*a*) None of the above (*b*) 405.5 crores
(*c*) 425.5 crores (*d*) 445.5 crores

31. The plan outlay in 1978 was approximately ... per cent of that in 1977.

(*a*) 251 (*b*) 260
(*c*) 261 (*d*) 250

32. The plan outlay in 1977 was approximately ..... per cent less than 1976.
(*a*) 74.4 (*b*) 76.4
(*c*) 23.5 (*d*) 25.4

33. During the period covered by the chart, in which year (compared with the previous year) was the plan outlay proportionately the largest ?
(*a*) 1975 (*b*) 1976
(*c*) 1978 (*d*) 1974

Directions. *Here are some questions on one's behaviour in society. With every question, there are given alternate answers. Select the correct answer.*

34. A guest comes to your house and you open the door. What will you say ?
(*a*) Please, welcome (*b*) Father is not at home
(*c*) Good night. (*d*) Sorry, we do not know you
(*e*) Please, come and have a cup of tea

35. If a member of your family gets hurt, whom you will call first ?
(*a*) A nearby relative (*b*) A neighbour
(*c*) A nearby taxi (*d*) A nearby teacher
(*e*) A nearby physician.

36. You are playing the game of cricket. The batsman, in your opinion, is out but he refuses to accept your opinion. What will you do ?
(*a*) It will ask him to leave the ground
(*b*) I will keep silent
(*c*) I will ask the spectators to do the needful
(*d*) I will make an appeal to the umpire
(*e*) I will leave the ground in anger.

37. While travelling in a public transport, you find a lot of rush. However, you have occupied a seat. If you have to offer the seat, whom you will offer ?
(*a*) a young lady (*b*) a girl friend
(*c*) a boy friend (*d*) an old lady
(*e*) to none.

38. You enter the selection-board at 9.00 A.M. Your first sentence is :

(*a*) I have applied for this job (*b*) May I take my seat
(*c*) Good morning, Sir (*d*) I am a graduate, Sir
(*e*) Good noon, Sir.

39. You are attending a lunch party where there is a lady 'A'. All others (B), (C), (D), (E) and (F) are men. You have to offer tea. To whom will you offer first ?

(*a*) E (*b*) D
(*c*) A (*d*) B

40. Ramesh hired a taxi to take him from his house to his college and back again for 20 rupees. At the mid of the distance from his house to his college, he came across his friend, Banwari and agreed to take him to the college and bring him back to the place from where he picked him up. How much fare should Banwari be asked to pay ?

41. If 2 masons can build one wall in twelve weeks, how many walls can 12 masons build in two weeks ?

42. How should you get exactly 8 litres of milk from a bucket full of it, if you have one 5-litre container and one 2-litre container ?

43. If 15 horses cover a particular distance in 15 hours, in what time would 30 horses cover the same distance at the same speed ?

44. A spider starts climbing a ridge at the speed of 15 ft. a minute. But after each 15 ft. it falls down by 7 ft. What height will it climb in 15 minutes ?

45. It takes $2\frac{1}{2}$ hours for a woollen pant to get dried in the sunlight, in how much time will a dozen of pants get dried in the sun ?

46. A reservoir is being filled with water at the rate of 5 cubic meters per hour. But, there is a hole in the reservoir which is leaking out the water at the rate of 2 cubic meters per hour. How many hours will it take to fill 60 cubic meters of water in the reservoir ?

47. Find out a four lettered word which gives the meaning of an Indian Union Territory if its last letter is removed; it means going, if the last two letters are removed; it means taking if the

third letter is removed, and it means a cereal if the first letter is removed ?

48. My winter holiday starts in six days' time. Yesterday it was my birthday, Friday, December 23. On what day of the week will my holiday start ?
49. If today is Sunday and the first of the month falls on Tuesday, what will be the date three days after Wednesday next ?
50. If fifth of the month falls two days after Monday, what day of the week will precede the 9th of month ?
51. On reaching a place of appointment on Thursday, I found that I was 5 days earlier than my friend who was late by 3 days. If I had reached there on the following Sunday, how many days early or late would I have been ?
52. A man is 5 years older than his wife and she is 18 years older than her son. If the son will be 23 in 6 years time, what is the present age of the father.
53. You are facing the rising sun, what is the direction to your right ?
54. If the day that will dawn two days after tomorrow is Thursday, what day of the week dawned three days before yesterday ?
55. Give such a four lettered word wherein removal of first letter gives the meaning of eating, removal of second letter gives the meaning of carpet and the removal of third letter gives the meaning of meeting.
56. Find out that word in which four out of five vowels appear together.
57. A group of birds is flying in the sky. In order to make them 50 in number we will have to add equal number of their present number, then half of it and 5 more. How many were they in their group ?
58. A man is going with a girl. Somebody asked his relationship with the girl. He replied, 'My paternal uncle is the paternal uncle of her paternal uncle'. Find out the direct relationship between the man and the girl.
59. A's daughter is the cousin of B's daughter. A has no sister, what is A to B.

60. A and B are traveling in a bus. Suddenly they come across C who is their father. A claims to be C's son but B says 'I am not his son'. : Find out the relationship between B and C.

61. Which is that letter which comes once in a year and twice in a week ?

62. There are two sparrows before a sparrow and two after a sparrow. How many sparrows are in total ?

ANSWERS

1. (*b*)	2. (*b*)	3. (*b*)	4. (*b*)	5. (*d*)
6. (*d*)	7. (*b*)	8. (*c*)	9. (*b*)	10. (*c*)
11. (*d*)	12. (*d*)	13. (*d*)	14. (*d*)	15. (*a*)
16. (*d*)	17. (*c*)	18. (*c*)	19. (*a*)	20. (*b*)
21. (*d*)	22. (*d*)	23. (*e*)	24. (*b*)	25. (*c*)
26. (*b*)	27. (*c*)	28. (*c*)	29. (*b*)	30. (*d*)
31. (*c*)	32. (*b*)	33. (*c*)	34. (*a*)	35. (*e*)
36. (*d*)	37. (*d*)	38. (*c*)	39. (*c*)	

40. Rs. 5 as extra charges 41. (1)

42. Fill up one 5-litre bucket. Take out of it one 2-litre-bucket milk. Add one full 5-litre bucket of milk. Now we have 8-litre milk.

43. (15 hrs.) 44. (120 ft.) 45. ($2\frac{1}{2}$ hrs.) 46. (20 hrs.)

47. (Goa) 48. (Friday) 49. (13th) 50. (Tuesday)

51. (Last by one day) 52. (40 years)

53. (South) 54. (Tuesday) 55. (Meat)

56. (Meaningful) 57. (18)

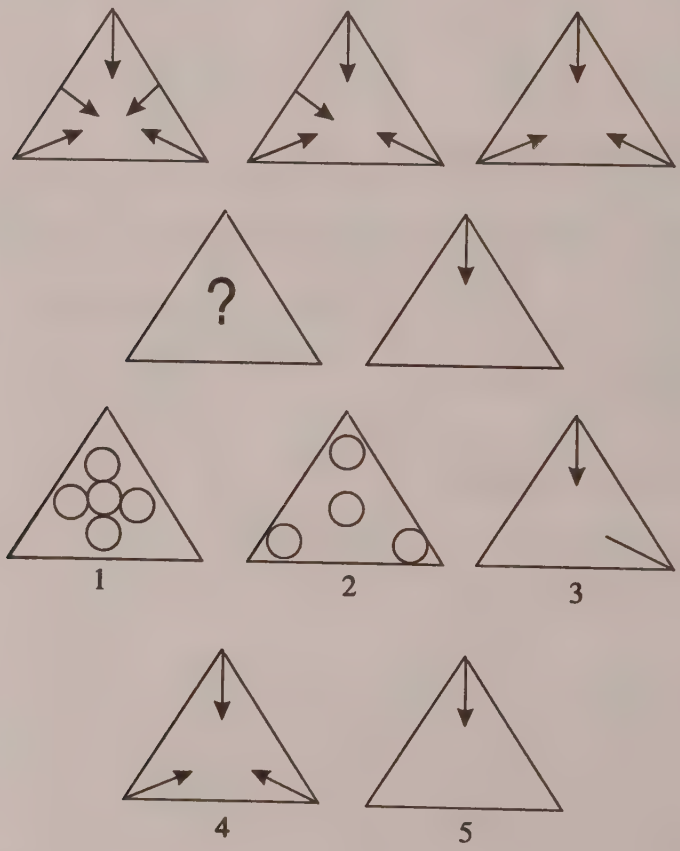
58. (girl is the daughter of the man) 59. (Brother)

60. (Daughter and Father) 61. (*e*) 62. (3)

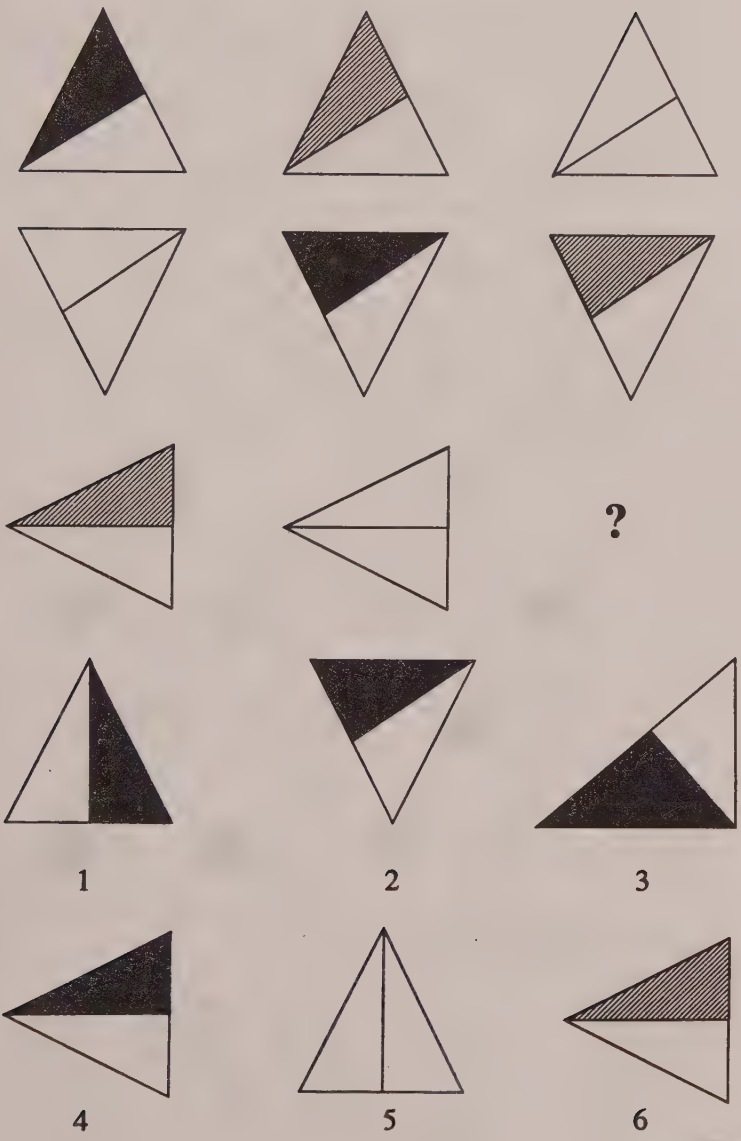
CHAPTER 10

Visual Observation Tests

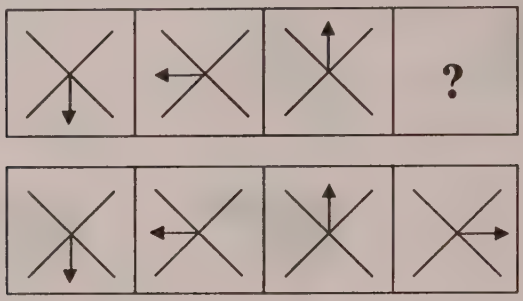
1. Which of the numbered figures fit in the empty space ? Give only the figure number.



2. Select the correct from the numbered ones.

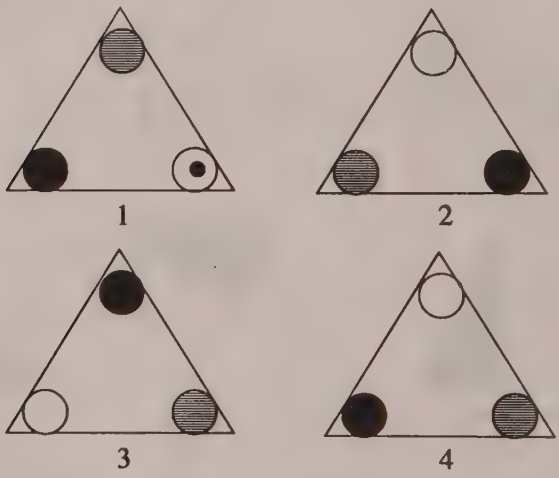


3. Which of the four figures numbered below fits in the empty space of the first line.



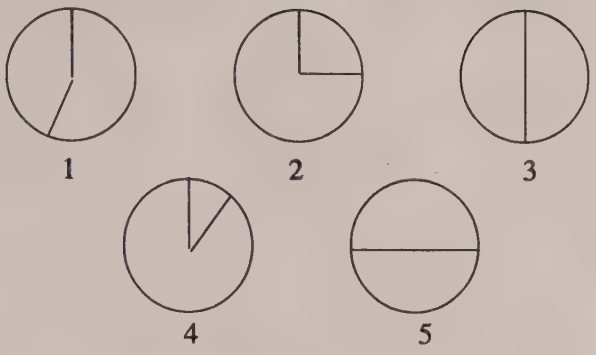
1 2 3 4

4. Find the odd man out.

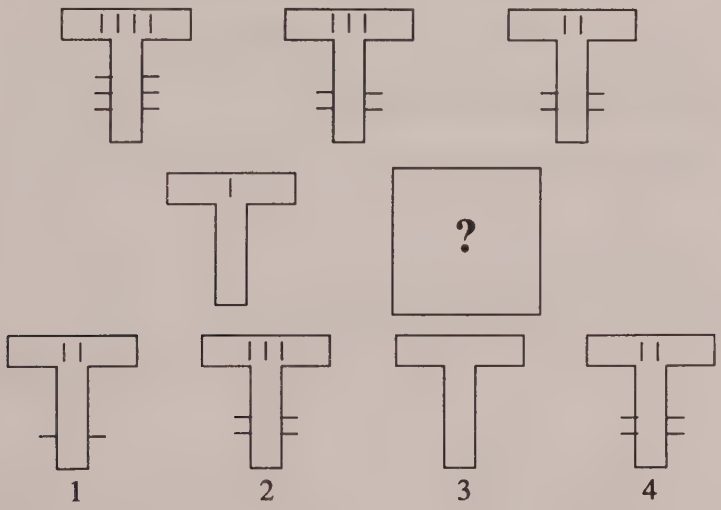


5. Find the odd man out.

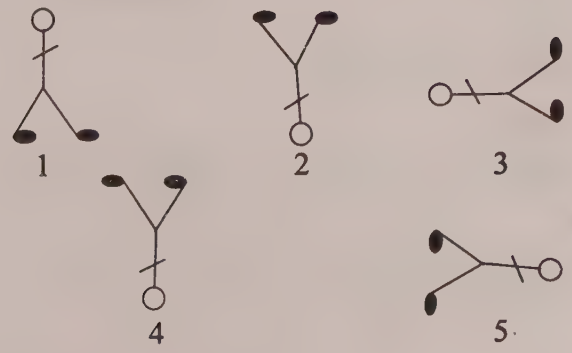
6. Find the odd man out.



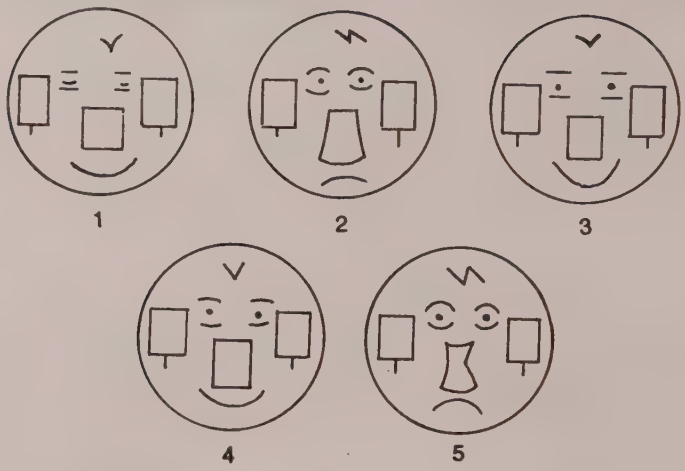
7. Which of the numbered figures fits in the empty box ?



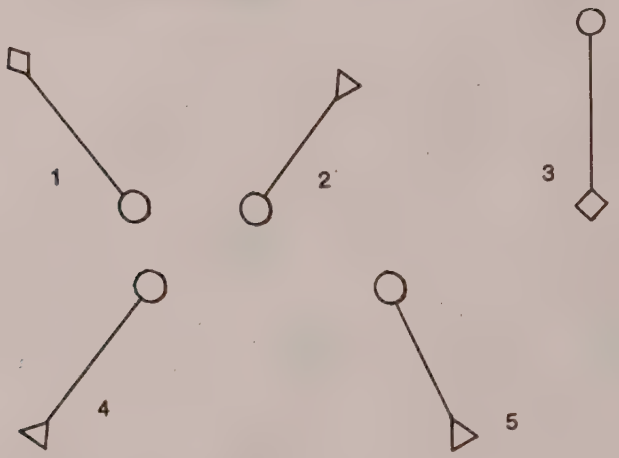
8. Order out the odd man.



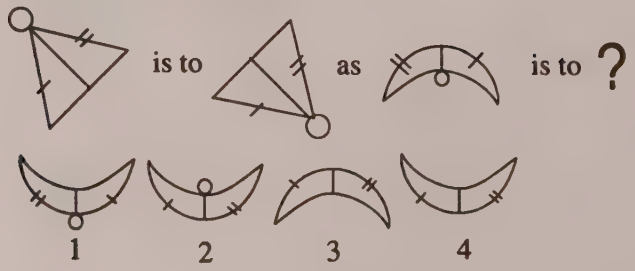
9. Find out the odd man.



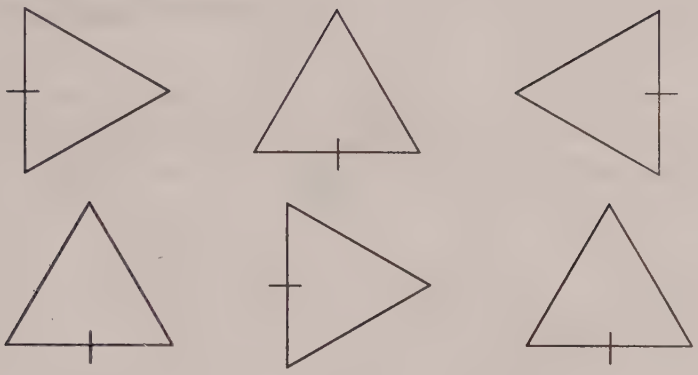
10. Score out the odd man.



11. Insert the missing figure.



12. Find out the odd man.

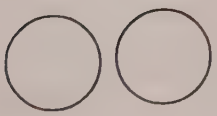


13. *In the following 2 sets of questions choose from five diagrams the one that illustrates the relationship among three given classes better than any of the other diagrams offered.*

There are three possible relationships between any two different classes :

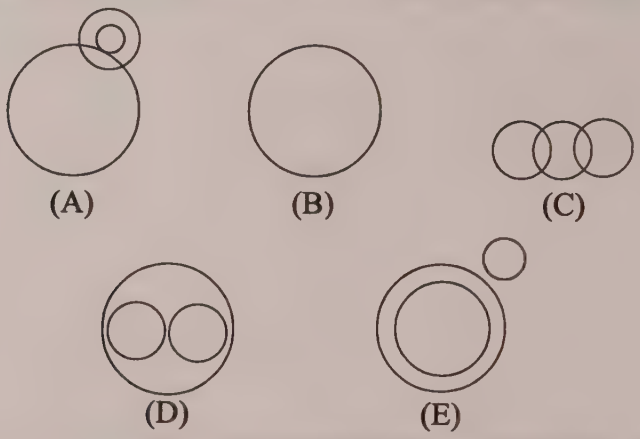
indicates that One class completely contained in the other, but not vice versa.

indicates that Neither class is completely contained in the other, but the two do have members in common.



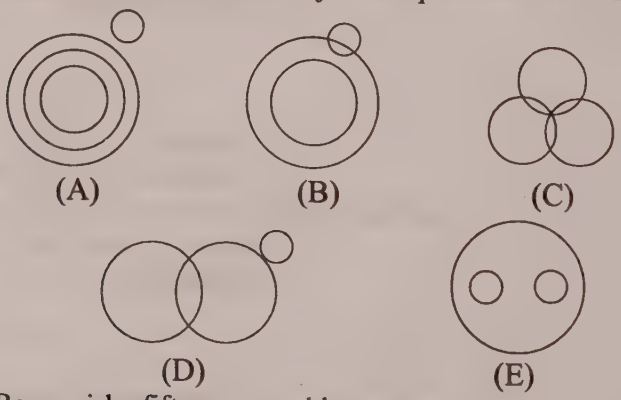
indicates that There are no members in common.

Directions : *Use these choices for the questions 13 to 19 below :*



13. Fish, swimmers, men
14. People who like sculpture, bus drivers, gourmets
15. Students, scholars, hyenas
16. 'Red, yellow, primary colors
17. Cotton, nylon, natural fibres
18. Vegetables, fruits carrots
19. Dimes, nickels, currency.

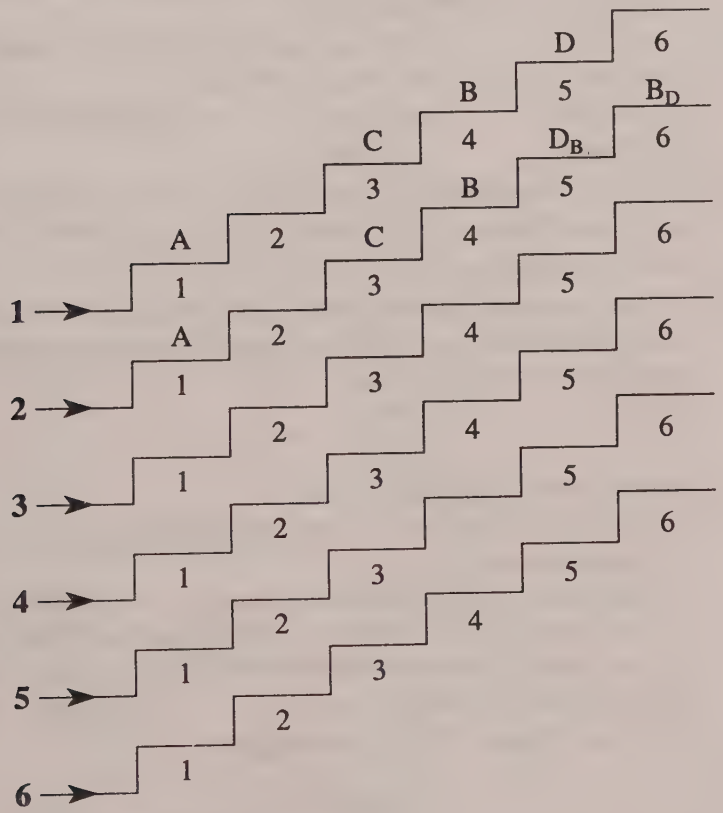
Directions : *Use these choices for the questions 20 to 27*



20. Boys, girls, fifteen-year-olds
21. Baseball players, third-basemen, stadiums
22. Rye, wheat, grains
23. Flutes, drums, percussion instruments
24. Terries, dogs, mammals

25. Mackerels, flounders, creatures with gills.
26. United Nations delegates, English-speaking people, unemployed people.
27. Mothers, women, childless secretaries

Directions for Questions 28-32 : *There are six steps that lead from the first to the second floor. No two people can be on the same step.*



Mr. A. is two steps below Mr. C

Mr. B is a step next to Mr. D.

Only one step is vacant (with no one standing on that step).

Denote the first step by Step 1, the second step by Step 2, etc.

28. If Mr. A is on the first step, which of the following is true ?
    (*a*) A person, Mr. E, could be on the fifth step.
    (*b*) A person, Mr. E, could be on the third step.
    (*c*) Mr. B is on the second step.
    (*d*) Mr. D is on a higher step than Mr. C.
    (*e*) Mr. C is on the fourth step.

29. If Mr. E was on the third step, and Mr. B was on a higher step than Mr. E, which step must be vacant ?
    (*a*) Step 5 (*b*) Step 6 (*c*) Step 1
    (*d*) Step 4 (*e*) Step 2

30. If Mr. B was on Step 1, which steps could A be on ?
    (*a*) 4 and 5 only (*b*) 2 and 4 only (*c*) 2 and 3 only
    (*d*) 3 and 5 only (*e*) 3 and 4 only.

31. If there were two steps between the step that A was standing on and the step that B was standing on, and A was on a higher step than D, A must be on step.
    (*a*) 6 (*b*) 5 (*c*) 2
    (*d*) 4 (*e*) 3

32. Which of the following is false ?
    I. B and D can be both on odd-numbered steps in one configuration.
    II. In a particular configuration, A and C must either both be on odd-numbered steps or both on even-numbered steps.
    III. A person, E, can be on a step next to the vacant step.
    (*a*) I, II and III (*b*) I only (*c*) III only
    (*d*) I and II only (*e*) I and III only

ANSWERS

1. (3)	2. (4)	3. (4)	4. (4)	5. (2)	6. (5)
7. (3)	8. (4)	9. (5)	10. (5)	11. (1)	12. (4)
13. (*b*)	14. (*c*)	15. (*d*)	16. (*e*)	17. (*a*)	18. (*a*)
19. (*e*)	20. (*c*)	21. (*e*)	22. (*d*)	23. (*e*)	24. (*b*)
25. (*d*)	26. (*c*)	27. (*a*)	28. (*d*)	29. (*c*)	30. (*d*)
31. (*d*)	32. (*e*)				

CHAPTER 11

Analogy Tests

Directions : *Point out the correct answers to be filled up in the blanks :*

1. Time is to watch as pressure is to ..... ?
   (*a*) hydrometer (*b*) lactometer
   (*c*) barometer (*d*) thermometer
2. Carpenter is to wood as tailor is to ..... ?
   (*a*) machine (*b*) scale
   (*c*) scale (*d*) shop
3. Limb is to body as branch is to ..... ?
   (*a*) office (*b*) tree
   (*c*) seed (*d*) building
4. Ice is to melt as water is to ..... ?
   (*a*) dry (*b*) steam
   (*c*) wash (*d*) evaporate
5. Health is to sickness as happiness is to ..... ?
   (*a*) health (*b*) heart
   (*c*) sadness (*d*) cheerfulness
6. Refrigerator is to cool as oven is to ..... ?
   (*a*) warm (*b*) heat
   (*c*) kitchen (*d*) cook
7. Philosophy is to philosopher as physics is to ..... ?
   (*a*) physicist (*b*) psychologist
   (*c*) chemist (*d*) astronomer
8. Year is to month as week is to ..... ?
   (*a*) day (*b*) Monday
   (*c*) hour (*d*) minute

9. Escort is to visit as guide is to ..... ?
   (*a*) tourist (*b*) earth
   (*c*) building (*d*) ground
10. Paper is to book as brick to ..... ?
   (*a*) mason (*b*) earth
   (*c*) earth (*d*) ground
11. Time is to clock as heat is to ..... ?
   (*a*) stove (*b*) fire
   (*c*) sun (*d*) thermometer
12. Petal is to flower as arm is to ..... ?
   (*a*) man (*b*) hand
   (*c*) hand (*d*) body
13. Butter is to bread as bark is to ..... ?
   (*a*) horse (*b*) skin
   (*c*) tree (*d*) shed
14. Rich is to poor as healthy is to ..... ?
   (*a*) fat (*b*) man
   (*c*) sick (*d*) stout
15. $\frac{1}{4}$ is to 1/8 as 8/8 is to ..... ?
   (*a*) 1/16 (*b*) 1/86
   (*c*) $\frac{1}{2}$ (*d*) 3/32
16. 'P' is to 'Q' as 'R' is to ..... ?
   (*a*) 'S' (*b*) 'K'
   (*c*) 'D' (*d*) 'N'
17. Cow is to calf as mother is to ..... ?
   (*a*) brother (*b*) father
   (*c*) son (*d*) daughter
18. Mils is to white as sky is to ..... ?
   (*a*) blue (*b*) air
   (*c*) green (*d*) pink
19. Man is to crowd as tree is to ..... ?
   (*a*) ground (*b*) fruit
   (*c*) leaf (*d*) forest
20. Meat is to non-vegetarian as liquor it to ..... ?
   (*a*) bottle (*b*) bar
   (*c*) intoxicate (*d*) drunkard

21. Coal is to engine as wax is to ..... ?
(*a*) torch (*b*) candle
(*c*) candle (*d*) bulb

22. Blindless is to eye as deafness is to ..... ?
(*a*) ear (*b*) nose
(*c*) brain (*d*) head

23. Mare is to horse as bitch is to ..... ?
(*a*) bear (*b*) ox
(*c*) dear (*d*) dog

24. Zoo is to animals as aquarium is to ..... ?
(*a*) alligator (*b*) bird
(*c*) fish (*d*) horse

25. Wednesday is to Friday as Sunday is to ..... ?
(*a*) Tuesday (*b*) Saturday
(*c*) Monday (*d*) Thursday

26. Teacher is to students as doctor is to ..... ?
(*a*) hospital (*b*) medicine
(*c*) patients (*d*) dispensary

27. Bird is to nest as horse is to ..... ?
(*a*) ride (*b*) stable
(*c*) gallop (*d*) mare

28. Boot is to foot as glove is to ..... ?
(*a*) cover (*b*) nylon
(*c*) cloth (*d*) hand

29. General is to soldier as Admiral is to ..... ?
(*a*) servant (*b*) lieutenant
(*c*) sailor (*d*) captain

30. Road is to car as sea is to ..... ?
(*a*) ship (*b*) fish
(*c*) aeroplane (*d*) cart

31. Food is to eat as water is to ..... ?
(*a*) fire (*b*) flow
(*c*) swallow (*d*) drink

ANALOGIES

Directions : *Each of these questions consists of two capitalized words which have a certain relationship to each other, followed by five pairs of words. Choose the pair of words which are related to each other in the same way as the words of the capitalized pair are related to each other.*

32. FLIRTATION : WINK : :
    (*a*) quarrel : insult
    (*b*) grasp : hand
    (*c*) crush : sledgehammer
    (*d*) exclude : bigot
    (*e*) swallow : drink

33. ASHES : FIRE : :
    (*a*) water : ice
    (*b*) calm : battle
    (*c*) flower : bud
    (*d*) disgust : expectation
    (*e*) moon : sun

34. BLOW : TOUCH : :
    (*a*) stab : prick
    (*b*) apple : pear
    (*c*) boxer : ring
    (*d*) breath : mouth
    (*e*) push : tickle

35. DOCTOR : DISEASE : :
    (*a*) intern : medicine
    (*b*) miser : gold
    (*c*) theft : punishment
    (*d*) illness : prescription
    (*e*) sheriff : crime

36. OCEAN : WATER : :
    (*a*) icicle : cave
    (*b*) ice : refrigerator
    (*c*) glacier : snow
    (*d*) lake : river
    (*e*) rain : drop

37. CRITICIZE : CALUMNIATE : :
    (*a*) ruminate : ponder
    (*b*) slap : wallop
    (*c*) socialize : fraternize
    (*d*) sentimentalize : slobber
    (*e*) plan : plot

38. ELM : TREE : :
    (*a*) oak : maple
    (*b*) dollar : money
    (*c*) dollar : dime
    (*d*) currency : dime
    (*e*) map : leaves

39. PLAY : DIRECTOR : :
    (*a*) store : manager
    (*b*) theatre : scenery
    (*c*) newspaper : editor
    (*d*) class : teacher
    (*e*) butcher : baker

40. Write the number of pair which is different from the others in the following :

(*a*) Mutilate and maim (*b*) Mellow and savoury
(*c*) Jewel and diamond (*d*) Work and play

41. If STRIKE is written as UUTJMF, how will you express the word MELODY.

(*a*) UFMPEZ (*b*) NGMQEZ
(*c*) OGNQFZ (*d*) OFNPEZ

42. Insert a five-letter word in the brackets which means same as the words outside it.

NEW (.....) TALE.

43. Find the odd-man out after rearranging the jumbled spelling of the following words :

(*a*) YOCHEK (*b*) SENTNI
(*c*) RAMLIAH (*d*) TIRECCK

44. Name the word which when inserted in the brackets completes the first word and starts the second.

A P R (.....) I O N

(*a*) UN (*b*) IL
(*c*) ON

45. Pick up the stranger figure out of the following group of figures :

1, 3, 8, 27, 81, 243, 729

(a) 243 (b) 27
(c) 8 (d) 729

46. Complete the relationship in the following :

Doctor is to Patient as Teacher is to .....

(*a*) Class (*b*) School
(*c*) Student (*d*) Studies

47. Complete the series :

Aoz, Boy, Cox, Dow, ...

48. Given below are the names of some fruits and vegetables with jumbled spellings. Write down the correct spellings :

(1) Toopat (2) Cehpa (3) Apes

(*a*) Carrot, Potato, Mango (*b*) Peach, Carrot, Peach
(*c*) Peas, Potato, Peach (*d*) Mango, Peach, Peas

49. Complete the following series :

27, 5, 25, 8, 23, 11, 21, — — —

(a) 15, 21 (*b*) 14, 19

(*c*) 16, 23 (*d*) 12, 19

50. Rearrange the following jumbled letters and name the first letter of the correct word.

NIGSHAWNOT (A foreign city)

(*a*) N (*b*) W

(*c*) A (*d*) W

51. Name the single letter which when taken out of each of the following words form entirely new words :

(*a*) STRING (*b*) Hurt (*c*) BREAST (*d*) BREAD

(*a*) R (*b*) E

(*c*) A (*d*) T

52. The two words in each of the following pairs have opposite meanings but their spellings are jumbled up. Find the correct words, and serial number of choice of letter with which the words start :

P I S I U S C O N, H A F I T (*Related to confidence*).

(*a*) P, F (*b*) S, F

(*c*) N, T (*d*) S, H

53. If I go 15 miles to the west, I will be 1 mile away from my house, and if I go three miles to the east, I will be 17 miles from my house, where am I at the moment, from my house ?

(*a*) 14 miles west (*b*) 14 miles east

(*c*) 20 miles west (*d*) 20 miles west

54. Four masons can build one sixth of a wall in 3 days. How much of it will be built by six masons in 6 days ?

(*a*) 1/3 (*b*) 2/3

(*c*) 1/2 (*d*) 3/4

55. Fill in the blanks with suitable word :

Fair is to Fare as Hair is to .....

(*a*) Hairy (*b*) Flair

(*c*) Hare (*d*) Mare

56. People use raincoats during monsoon because :

(*a*) It is a fashion to do so.

(*b*) They can be had in pretty colours.

(*c*) They protect them from getting wet.
(*d*) They look smart in monsoons.

57. Insert the missing number :

36, 28, 24, 22, ...

(*a*) 22 (*b*) 19
(*c*) 20 (*d*) 21

58. A boy had twice as many sums right as wrong. If he had 24 sums in all, how many, of them were right ?

(*a*) 8 (*b*) 6
(*c*) 12 (*d*) 16

59. Ground is to Sky as Floor is to .....

(*a*) Roof (*b*) Walls
(*c*) Ceiling (*d*) Height

60. Fill in the blank in the following :

BC, EF, IJ, NO, ...

(*a*) RS (*b*) ST
(*c*) TU (*d*) UV

61. Find out the odd man in the following :

(*a*) Hair (*b*) Wool
(*c*) Feathers (*d*) Grass

62. Point X is North of point Y and Point Y is East of point Z. To which direction is point X with respect Z ?

(*a*) East (*b*) North
(*c*) Northeast (*d*) West

63. A is the brother of the father of B. What is the relationship of B with the son of A ?

(*a*) Nephew (*b*) Niece
(*c*) Uncle (*d*) Cousin

64. Policemen are useful because :

(*a*) They are strong and smart
(*b*) They carry batons and whistles
(*c*) They protect us
(*d*) Evil-doers and criminals are punished by them.

65. Wash is to soap as sweep is to .....

(*a*) Straw (*b*) Broom
(*c*) Floor (*d*) Clean

66. Reaching the place of appointment on Wednesday, I found that I was two days earlier than the scheduled day. If I had reached there on the following Sunday, how many days late would I have been ?
(*a*) 3 days (*b*) 1 day
(*c*) 2 days (*d*) 4 days

67. People wear dark glasses during the summer because
(*a*) To show that they are in leisure
(*b*) To be in the fashion
(*c*) To make the surroundings appear pretty
(*d*) To protect their eyes from the bright sun.

68. Complete the series :
A X C D X G H I X
(*a*) NOPQ (*b*) MNOP
(*c*) LMNO (*d*) KLMN

69. Insert the missing number ?
4 11 8 19 12 ?
(*a*) 25 (*b*) 27
(*c*) 20 (*d*) 30

70. Thermometer is to temperature as barometer is to .....
(*a*) Mercury (*b*) Milk
(*c*) Pressure (*d*) Time

71. Spot the stranger in the following :
(*a*) Cut (*b*) Shave
(*c*) Long (*d*) Chop

72. Sea water is saltish because :
(*a*) People put salt into sea centuries ago
(*b*) There are salt rocks at the bottom of the sea
(*c*) Rivers constantly carry salt into sea
(*d*) At the bottom of the sea there are certain plants which emit salt.

73. Two men X and Y start walking from a particular point. X goes 4 miles west and Y goes one mile east. Y turns back and walks 4 miles and X also turns back and walks one mile. How far are they from are other ?
(*a*) 4 miles (*b*) 7 miles
(*c*) 3 miles (*d*) 13 miles

74. A clock seen through a mirror reads quarter past three. What is the correct time.
(*a*) 8.15 (*b*) 3.15
(*c*) 9.15 (*d*) 8.45

75. A tree always has .....
(*a*) Birds (*b*) Flowers
(*c*) Roots (*d*) Leaves

76. A man travels one mile turns right and travels another mile, turns left and travels two miles, and again turns left and travels five miles. How far is the from the starting point ?
(*a*) 9 miles (*b*) 4 miles
(*c*) 3 miles (*d*) 5 miles

77. Rearrange the following words in the sequence in which they appear in the dictionary and write the serial number in that order.
(*a*) Confess (*b*) Confidence
(*c*) Conference (*d*) Confederation

78. Farmers put manure on the soil because :
(*a*) The find it easy to dispose it there.
(*b*) No one will go near his field due to smell.
(*c*) They cannot sell it.
(*d*) It enriches the soil.

79. Arrange the following in an order and give the serial numbers :
(*a*) District (*b*) Continent (*c*) Village (*d*) City (*e*) Country
(*a*) CADEB (*b*) BDEAC
(*c*) CDAEB (*d*) CDEAB

80. Complete the following :
Forty is to sixty as 2x is to .....
(*a*) 4x (*b*) 2x
(*c*) 6x (*d*) 3x

81. What comes only once in danger but twice in ranger ?
(*a*) E (*b*) A
(*c*) R (*d*) D

82. Complete the following relationship ?
Rain is to clouds as water is to .....
(*a*) Condense (*b*) Snow
(*c*) Vapour (*d*) Cold

83. A cow does not always have a .....
(*a*) Gas (*b*) Oil
(*c*) Air (*d*) Water

84. A cow does not always have a .....
(*a*) Skin (*b*) Tail
(*c*) Heart (*d*) Calf

85. Write the number of the two words which have the same relationship as Toothbrush and teeth ?
(*a*) Toothache (*b*) Hair
(*c*) Clean (*d*) Comb
(*e*) Bald (*f*) Polish

86. Complete the following.
Month is to Year as ..... is to Dozen.
(*a*) Score (*b*) Quarter
(*c*) Eggs (*d*) Unit

87. My mother is the sister of your brother. What relation am I to you ?
(*a*) Uncle (*b*) Son-in-law
(*c*) Cousin (*d*) Nephew

88. If REST is coded as 2 6 8 9 and BEAST is coded as 5 6 0 8 9. Then how will you encode BREAST ?
(*a*) 826509 (*b*) 526809
(*c*) 562089 (*d*) 526089

89. Which is heavier ?
(*i*) a kilogram of cotton (*ii*) a kilogram of copper
(*a*) Copper (*b*) Cotton
(*c*) Both are equal (*d*) None

90. Rearrange the following jumbled words to form a sensible sentence and state if it is True, False or Unknown. *Like Most To Children Dance*
(*a*) False (*b*) Unknown
(*c*) True

91. What do all books have ?
(*a*) Question (*b*) Picture
(*c*) Pages (*d*) Verses

92. Spot the odd man out.
(*a*) Electricity (*b*) Coal
(*c*) Wood (*d*) Gas

93. Which word is of different class in the following.
(*a*) Skin (*b*) Lungs
(*c*) Blood (*d*) Bread

94. Nehru was ..... with a silver spoon in his mouth.
(*a*) Prime minister (*b*) died
(*c*) born (*d*) fed

95. He is the apple of his father's .....
(*a*) table (*b*) food
(*c*) land (*d*) eyes
(*e*) garden

96. The girls on the right are my .....
(*a*) Sister-in-laws (*b*) Sister-in-law
(*c*) In-law-sisters

97. Sita likes to look ..... in the mirror.
(*a*) himself (*b*) her
(*c*) myself (*d*) herself
(*e*) beauty

98. His sons-in-law ..... always getting trouble.
(*a*) is (*b*) will
(*c*) shall (*d*) are

99. Here is the book ..... you lost.
(*a*) where (*b*) when
(*c*) this (*d*) how
(*e*) which

100. The government did not ..... the demand of the public
(*a*) concede on (*b*) conclude on
(*c*) conclude to (*d*) coclude to
(*e*) concede to

101. The man was ..... in the river while catching fish.
(*a*) drownded (*b*) drown
(*c*) drowned (*d*) drownt

102. Securing scholarship was adding another feather to his .....
(*a*) face (*b*) coat
(*c*) hand (*d*) cap
(*e*) clothes

103. The two brothers were quarreling with .....
(*a*) one another (*b*) are other
(*c*) both of them (*d*) each other
(*e*) each another

104. The river flows ..... the bridge.
(*a*) are (*b*) is
(*c*) came (*d*) have

105. There ..... a large number of students in the college.
(*a*) are (*b*) is
(*c*) came (*d*) have

106. My ..... brother has just arrived.
(*a*) bigger (*b*) older
(*c*) elder (*d*) big

107. Cotton as well as tea ..... grown in India.
(*a*) was (*b*) are
(*c*) is (*d*) have

108. Will you stay here for ..... days ?
(*a*) some (*b*) a few
(*c*) the few (*d*) few

109. Two third of the city ..... in ruins.
(*a*) is (*b*) will
(*c*) were (*d*) have
(*e*) are

110. I must catch the evening train at all .....
(*a*) expenses (*b*) times
(*c*) costs (*d*) reasons
(*e*) budgets

111. I am ..... reading books reading books of adventures.
(*a*) enjoy (*b*) found of
(*c*) found of (*d*) like
(*e*) happy

112. I am not ..... to such ill-treatment.
(*a*) occustomed (*b*) customed
(*c*) accustomed (*d*) uncustomed
(*e*) acostumed

Directions. *In the following questions pick out the words from the alternatives that give meaning to the italicised words.*

113. A broken mirror *portends* seven years bad luck
(*a*) delegated (*b*) make believe (*c*) to foreshadow

114. The mountaineering team *traversed* a difficult path
(*a*) split (*b*) to mark (*c*) cross

115. It was a miraculous escape for the motorist, he came out *unscathed* from the accident.
(*a*) smooth (*b*) relaxed (*c*) unharmed

116. The door was closed to *mute* the loud noise coming from the room.
(*a*) shout out (*b*) cancel (*c*) muffle

117. He dislikes company as he has become a *recluse*.
(*a*) vagabond (*b*) outcast (*c*) herm

118. The patient had *fitful* sleep last night.
(*a*) meager (*b*) nervous (*c*) spasmodic

119. His *arrogant* manner puts off his friends.
(*a*) diffident (*b*) haughty (*c*) quarrelsome

120. One must not *infringe* on the rights of others.
(*a*) add (*b*) encircle (*c*) encroach

121. They have nothing to worry as they are a family of *affluence*.
(*a*) power (*b*) wealth (*c*) importance

122. It is important to vage a *relentless* war against the unlawful elements.
(*a*) unregretted (*b*) merciless (*c*) humourless

123. A trip to the hills will have *therapeutic* value to the sick man.
(*a*) based on theory (*b*) curative
(*c*) sleep inducing

124. He wasted a lot of time in *rigmarole*.
(*a*) discussion (*b*) meaningless
(*c*) unnecessary detail

125. It has been ordered to *decimate* the building.
(*a*) build (*b*) count
(*c*) destroy a large part of

126. The Teacher's *reproof* hurt the child.
(*a*) warning (*b*) anger (*c*) rebuke

127. The *swashbuckling* here in the movie escaped alive.
(*a*) eager (*b*) romantic (*c*) recklessly daring

128. It used to be a beautiful house but now it wears a *jaded* look.
(*a*) colourful (*b*) worn out (*c*) faded

129. Children must be kept busy otherwise they will *loitre* around.
(*a*) relax (*b*) leave a mess (*c*) linger

130. He has a *bias* towards him, so do not ask his opinion.
(*a*) fairness (*b*) dislike (*c*) preference

131. The expert *refuted* the argument by his strong reasoning.
(*a*) opposed (*b*) disprove (*c*) rejected

132. Paint is *diluted* with a thinner before it is applied.
(*a*) drained (*b*) smelt (*c*) watered down

133. His silence *tantamounts* to the admission of his guilt.
(*a*) is indicative of (*b*) is equivalent to (*c*) is admission of

134. Use of *obsolete* equipment led to the failure of the factory.
(*a*) spoilt (*b*) modern (*c*) outmoded

135. The two brothers *wrangled* over the, distribution of the property.
(*a*) cheated (*b*) disputed (*c*) bargained

136. Tension *pervaded* the spectators as the tournament came to a finish.
(*a*) affected (*b*) spread through (*c*) entered

137. The aim of his speech was to *malign* the opposing candidate.
(*a*) insult (*b*) threaten (*c*) slander

138. It is a *supposition* that there is intelligent life else-where in the universe.
(*a*) intention (*b*) assumption (*c*) demand

139. His comment was misunderstood as he spoke in *satte* voice.
(*a*) confusing manner (*b*) in a low voice
(*c*) deceitful voice

140. She paid *punctilious* attention to the rules of etiquette.
(*a*) fussy (*b*) punctual
(*c*) minutely particular

141. The young should be *imbued* with a sense of responsibility.
(*a*) added with (*b*) absorbed (*c*) infused

142. During the war *curfew* was imposed on all the principal towns.
(*a*) police vigilance (*b*) warning
(*c*) restrictive regulation

143. We could not understand him as his behaviour was *enigma* to us.
(*a*) nonsense (*b*) complicated (*c*) puzzle

144. The legacy is *contingent* to the fact that part of it is to given in charity.
(*a*) agreed upon (*b*) talkative (*c*) dependent

145. Man is a *gregarious* animal.
(*a*) jovial (*b*) talkative (*c*) social

ANSWERS

1. (*c*)	2. (*c*)	3. (*b*)	4. (*d*)	5. (*c*)	6. (*a*)
7. (*a*)	8. (*a*)	9. (*a*)	10. (*c*)	11. (*d*)	12. (*d*)
13. (*c*)	14. (*c*)	15. (*c*)	16. (*a*)	17. (*c*)	18. (*a*)
19. (*d*)	20. (*d*)	21. (*b*)	22. (*a*)	23. (*d*)	24. (*c*)
25. (*a*)	26. (*c*)	27. (*b*)	28. (*d*)	29. (*c*)	30. (*a*)
31. (*d*)	32. (*a*)	33. (*b*)	34. (*a*)	35. (*e*)	36. (*c*)
37. (*b*)	38. (*b*)	39. (*c*)	40. (*d*)	41. (*d*)	
42. Novel	43. (*c*)	44. (*c*)	45. (*c*)	46. (*c*)	47. (*d*)
48. (*b*)	49. (*b*)	50. (*b*)	51. (*a*)	52. (*b*)	53. (*b*)
54. (*c*)	55. (*c*)	56. (*c*)	57. (*d*)	58. (*d*)	59. (*c*)
60. (*c*)	61. (*d*)	62. (*c*)	63. (*d*)	64. (*c*)	65. (*b*)
66. (*c*)	67. (*d*)	68. (*b*)	69. (*b*)	70. (*c*)	71. (*c*)
72. (*c*)	73. (*c*)	74. (*d*)	75. (*b*)	76. (*d*)	
77. (*d*) (*c*) (*a*) (*b*)		78. (*d*)	79. (*c*)	80 (*d*)	81. (*c*)
82. (*c*)	83. (*d*)	84. (*d*)	85. (*b*) and (*d*)		86. (*d*)
87. (*d*)	88. (*d*)	89. (*c*)	90. (*c*)	91. (*c*)	92. (*c*)
93. (*d*)	94. (*c*)	95. (*d*)	96. (*b*)	97. (*d*)	98. (*d*)
99. (*e*)	100. (*e*)	101. (*c*)	102. (*d*)	103. (*d*)	104. (*d*)
105. (*b*)	106. (*c*)	107. (*c*)	108. (*b*)	109. (*a*)	110. (*c*)
111. (*c*)	112. (*c*)	113. (*c*)	114. (*c*)	115. (*e*)	116. (*c*)
117. (*c*)	118. (*c*)	119. (*c*)	120. (*c*)	121. (*b*)	122. (*b*)
123 (*b*)	124. (*c*)	125. (*c*)	126. (*c*)	127. (*a*)	128. (*b*)
129. (*c*)	130. (*e*)	131. (*b*)	132. (*c*)	133. (*b*)	134. (*c*)
135. (*b*)	136. (*b*)	137. (*e*)	138. (*b*)	139. (*c*)	140. (*c*)
141. (*c*)	142. (*c*)	143. (*c*)	144. (*c*)	145. (*c*).	

CHAPTER 12

Coding and Decoding Tests

In this type of questions, words are not written directly. They are written in code words. The letters do not represent themselves but they represent some other alphabets. Thus these letters acquire some artificial value. The value to these letters is not allotted in haphazard way, rather a set pattern is followed. For tackling these questions the examinee should first sense out the pattern or relationship followed by the letters given in the first set of code word and clear word. He should apply the same rule in decoding the other coded word.

Example : If Early stands for 32567, then Year will mean :

(*a*) 3725 (*b*) 7325 (*c*) 3752
(*d*) 3257 (*e*) 3275

The answer here is '7325', i.e. (*b*), because E stands for 3, A for 2, R for 5, L for 6 and Y for 7. So the word year stands for 7325.

1. If 42572 stands for Word, then 7252 stands for :
   (*a*) Dolar (*b*) Olrd (*c*) Lord
   (*d*) Rold (*e*) Oldr
2. If worship stnads for 1357624 then Ship stands for :
   (*a*) 6274 (*b*) 7642 (*c*) 7624
   (*d*) 6427 (*e*) 6742
3. If 35204 stands for Plato, then 043 stands for :
   (*a*) OPT (*b*) TPO (*c*) TOP
   (*d*) PTO (*e*) POT
4. If Winter stands for 725341 then Rent stands for :
   (*a*) 1543 (*b*) 1453 (*c*) 1435
   (*d*) 1534 (*e*) 1345

5. If 40351 stands for Spain, then 0351 stands for :
(*a*) Pnia (*b*) Naip (*c*) Aipn
(*d*) Apin (*e*) Pain

6. If 214356 stands for Person, then 4561 stands for :
(*a*) Pore (*b*) Eopr (*c*) Eorp
(*d*) Opre (*e*) Rope

7. If Bathe stands for 23541, then Tea stands for :
(*a*) 351 (*b*) 135 (*c*) 513
(*d*) 531 (*e*) 315

8. If 42152 stands for 2456789, then Quit stands for :
(*a*) Cape (*b*) Pace (*c*) Apce
(*d*) Acpe (*e*) Aepc

9. If Quietly stands for 2456789, then Quit stands for :
(*a*) 2475 (*b*) 2547 (*c*) 2457
(*d*) 2754 (*e*) 2745

10. If 125430 stands for Course then 15430 stands for :
(*a*) Surce (*b*) Rusce (*c*) Cerus
(*d*) Creus (*e*) Curse

11. If Offer stands for 35524 then For stands for :
(*a*) 453 (*b*) 345 (*c*) 534
(*d*) 435 (*e*) 354

12. If 43527 stands for Bread, then 7523 stands for :
(*a*) Deer (*b*) Bear (*c*) Dead
(*d*) Beer (*e*) Dear

13. If wonder stands for 257614, then Done stands for :
(*a*) 5671 (*b*) 5617 (*c*) 5761
(*d*) 6517 (*e*) 6571

14. If 1256 stands for Mean, then 9512 stands for :
(*a*) Name (*b*) Mena (*c*) Nwam
(*d*) Nema (*e*) Mane

15. If 653042 stands for Volume, then 4032 stands for :
(*a*) Mleu (*b*) Mule (*c*) Melu
(*d*) Mlue (*e*) Meul

16. If Small stands for 43522, then All stands for :
(*a*) 562 (*b*) 256 (*c*) 522
(*d*) 625 (*e*) 652

17. If 0231670 stands for America, then 1673 stands for :
(*a*) Icre (*b*) Rice (*c*) Rcie
(*d*) Reci (*e*) Irce

18. If Guide stands for 35214, then Dug, stands for :
(*a*) 513 (*b*) 351 (*c*) 153
(*d*) 531 (*e*) 135

19. If 35261 stands for Tears, then 153 stands for :
(*a*) Tes (*b*) Ste (*c*) Ets
(*d*) Set (*e*) Est

20. If Politics stands for 39145402, then Lopist stands for :
(*a*) 136524 (*b*) 163425 (*c*) 136245
(*d*) 136453 (*e*) 136425

21. If 2334576 stands for Efforts, then 3457 stands for :
(*a*) Fort (*b*) Roft (*c*) Frot
(*d*) Ftor (*e*) Fotr

22. If 214454362 stands for Terrorist, then Error stands for :
(*a*) 14454 (*b*) 41544 (*c*) 15444
(*d*) 51444 (*e*) 14445

23. If System stands for 252146, then Stem stands for :
(*a*) 1426 (*b*) 2146 (*c*) 1246
(*d*) 1624 (*e*) 1642

24. If Night stands for 34527, then Tin stands for :
(*a*) 743 (*b*) 347 (*c*) 374
(*d*) 437 (*e*) 473

25. If 3125467 stands for Instead, then 235 stands for :
(*a*) Nit (*b*) Sit (*c*) Ist
(*d*) Tea (*e*) Tin

26. If Fact stands for 4257 then Fat stands for :
(*a*) 724 (*b*) 427 (*c*) 247
(*d*) 742 (*e*) 472

27. If 12345 means Claim, then 1325 stands for :
(*a*) Male (*b*) Lame (*c*) Salm
(*d*) Palm (*e*) Calm

28. If Dozen stands for 35712, then DEN stands for :
(*a*) 213 (*b*) 231 (*c*) 123
(*d*) 132 (*e*) 312

29. If 1254376 stands for Century, then 335 stands for :
(*a*) Yes (*b*) Rut (*c*) Nut
(*d*) Yet (*e*) Rum

30. If Something stands for 823456789, then Night stands for :
(*a*) 36789 (*b*) 38967 (*c*) 37896
(*d*) 38976 (*e*) 37896

31. If 124351 stands for Newton, then 3512 stands for
(*a*) Wont (*b*) Note (*c*) Neon
(*d*) Tone (*e*) Town

32. If Health stands for 345423 then 3152 stands for
(*a*) Late (*b*) Heah (*c*) Heat
(*d*) Heal (*e*) Hate

33. If 32114657 stands for Possible, then 2167 stands for :
(*a*) Bose (*b*) Ebos (*c*) Sobe
(*d*) Osbe (*e*) Eosb

34. If Growth stands for 579312, then Throw stands for :
(*a*) 21379 (*b*) 12793 (*c*) 21793
(*d*) 29137 (*e*) 21973

35. If 215734 stands for Nature, then Near stands for :
(*a*) 1342 (*b*) 2143 (*c*) 1324
(*d*) 2413 (*e*) 4213

36. If Method stands for 432156, then 456 stands for :
(*a*) Hot (*b*) Met (*c*) Mod
(*d*) Toe (*e*) Dot

37. If 321534 stands for Record, then 353 stands for :
(*a*) Ror (*b*) Dor (*c*) Roe
(*d*) Cor (*e*) Roc

38. If Indeed stands for 123443, then Need stands for :
(*a*) 2453 (*b*) 4423 (*c*) 2434
(*d*) 2345 (*e*) 3244

39. If 75312 stands for Sweat, then 710 stands for :
(*a*) Wet (*b*) Set (*c*) Sat
(*d*) Eat (*e*) Tea

40. If Worse stands for 98765, then Sore stands for :
(*a*) 8675 (*b*) 7568 (*c*) 5768
(*d*) 6175 (*e*) 5678

41. If Fight stands for 74352, then Fit stands for :
(*a*) 472 (*b*) 274 (*c*) 247
(*d*) 742 (*e*) 427

42. If Power stands for 72514, then Row stands for :
(*a*) 245 (*b*) 425 (*c*) 452
(*d*) 524 (*e*) 542

43. If 54321 stands for Begin, then 521 stands for :
(*a*) Beg (*b*) Beu (*c*) Gin
(*d*) Nib (*e*) Bin

44. If Space stands for 98765 then Ace stands for :
(*a*) 576 (*b*) 665 (*c*) 566
(*d*) 765 (*e*) 756

45. If 87654 stands for Great then 354 stands for :
(*a*) Rat (*b*) Ate (*c*) Get
(*d*) Tea (*e*) Eat

46. If Friday stands for 234567, then Rid stands for :
(*a*) 543 (*b*) 345 (*c*) 354
(*d*) 435 (*e*) 534

47. If 768123 stands for Prince, then 1823 stands for :
(*a*) Rine (*b*) Cine (*c*) Pine
(*d*) Rice (*e*) Nine

48. If Where stands for 34525, then Were stands for :
(*a*) 5523 (*b*) 3552 (*c*) 3525
(*d*) 5325 (*e*) 5235

49. If 2468 stands for Near, then 4682 stands for :
(*a*) Rena (*b*) 6845 (*c*) 8645
(*d*) 5486 (*e*) 4568

50. If Sight stands for 426175, then Gist stands for :
(*a*) 4586 (*b*) 6845 (*c*) 8645
(*d*) 5486 (*e*) 4568

51. Which choice mentions the last letter of the required word in the following :
If C E N P B D S U N P Q S stands for Doctor, what does M O T V Q S R T D F stand for ?
(*a*) S (*b*) E (*c*) R
(**Hint :** NURSE is the word).

52. If Loss is coded as 1357 and Gain is coded as 2468, what do the figures 84615 stands for ?

Hint : Letters of alphabet are given arbitrary values in terms of digits, as L is represented by 1, 0 by 3, S by 5 and so on.

53. If Case is coded as 5 2 3 1,
CHAIR is coded as 58206, and
TEACH is coded as 712958
then what does 586037 stand for ?

54. If A = 2, B = 3, C = 3 and so on, what does the following number stand for ?

4, 2, 17, 21, 2, 10, 15

55. If Young is coded as X M K L B,
CHAIR is coded as Z O S J Y,
MAN is coded as P S L,
then, what does P M L S Y Z O X stand for ?

56. If 4 = 0, 5 = 5, 6 = 12, 7 = 21.
Then 8 = ?
(*a*) 24 (*b*) 32 (*c*) 16 (*d*) 20

57. If Black is coded as 58301 and White is coded as 42697, what do the figures 02381 stand for ? Name the last letter of the clear word :
(*a*) H (*b*) A (*c*) K (*d*) C

58. If $4 \times 5 \times 2 = 524$, $3 \times 7 \times 2 = 723$ and $6 \times 8 \times 7 = 876$, then $9 \times 4 \times 5 = ?$
(*a*) 954 (*b*) 495 (*c*) 459 (*d*) 459

59. If 24 + 35 = 28, 15 + 49 = 24 and 27 + 48 = 48
then 69 + 37 = ?
(*a*) 56 (*b*) 69 (*c*) 50 (*d*) 38

60. Insert the missing figure :
82 (54) 35, 48 (46) 25, 71 (58) 46, 96 (?) 62
(*a*) 45 (*b*) 68 (*c*) 70 (*d*) 36

61. 34 (30) 26 42 (35) 28 29 (43) 86 48 (?) 26
(*a*) 42 (*b*) 24 (*c*) 37 (*d*) 90

62. If $3 \times 8 = 42$, $6 \times 4 = 23$ and $8 \times 6 = 34$ then $2 \times 4 = ?$
(*a*) 26 (*b*) 30 (*c*) 21 (*d*) 25

Insert the missing figure in the following pattern of figures.

63. 3 5 8 7 2 6 2 5
4 2 0 1 7 3 6 ?
(*a*) 4 (*b*) 3 (*c*) 5 (*d*) 6

64. 6 4 8 9 2 9 7 8
4 5 2 3 5 1 4 ?
(*a*) 4 (*b*) 2 (*c*) 3 (*d*) 5

65. If 3 + 8 = 17
5 – 3 = 22
6 × 2 = 72
then, 8 + 4 = ?
(*a*) 18 (*b*) 16 (*c*) 12 (*d*) 26

66. If 4 × 6 = 23, 6 × 2 = 31, 2 × 8 = 14 then 8 × 4 = ...
(*a*) 32 (*b*) 42 (*c*) 24 (*d*) 48

67. If 14 × 25 = 5241, 32 × 17 = 7123, 78 × 19 = 9187 then 46 × 32 = ...
(*a*) 32 (*b*) 42 (*c*) 24 (*d*) 48

68. 39 × 41 = 15, 51 × 34 = 47, 41 × 52 = 37 then 82 × 53 = ?
(*a*) 64 (*b*) 68 (*c*) 1300 (*d*) 85

69. If 3 + 2 = 7, 4 + 3 = 10, 5 + 4 = 13, 6 + 5 = 16 then 7 + 6 = ?
(*a*) 18 (*b*) 14 (*c*) 16 (*d*) 19

70. If 64 × 34 = 32, 84 × 42 = 41, 64 × 36 = 33 then 26 × 36 = ?
(*a*) 31 (*b*) 23 (*c*) 13 (*d*) 43

Directions. Question 71 and 72 are based on the following : (1) "JAM RUM SUM" means "BRING COFFEE HERE"; (2) "SUM ROM AAM KAAM" means "BRING TEA FOR ME"; (3) "NAM KA RUM" means "WHAT IS HERE"; (4) "AAM BEE SEE" means "TEA WAS FINE"; (5) "MEAM FAM OUAM" means "I SAT THERE".

Note : The words in capitals are not necessarily in the same order as the words in code.

71. "Tea" in code is
(*a*) KAAM (*b*) SUM
(*c*) ROM (*d*) AAM

72. "COFFEE" in code is
(*a*) AAD (*b*) RUM
(*c*) JIM (*d*) SUM

73. If Provided is coded as Rpvodide, then Suggestion would be coded as
(*a*) Usgeseitno (*b*) Usegsgitno
(*c*) Usggseitno (*d*) Usseggitno

74. If Brokerage is coded as Egarekobr, then Traveller would be coded as
(*a*) Weirlvart (*b*) None of the above
(*c*) Rellevart (*d*) Rellevatr

75. If, in a map, south-east becomes north, south-west will become
(*a*) South-east (*b*) West
(*c*) East (*d*) South

ANSWERS

1. (*c*)	2. (*c*)	3. (*c*)	4. (*b*)	5. (*e*)	6. (*c*)
7. (*c*)	8. (*b*)	9. (*c*)	10. (*e*)	11. (*c*)	12. (*e*)
13. (*e*)	14. (*a*)	15. (*b*)	16. (*c*)	17. (*b*)	18. (*c*)
19. (*d*)	20. (*b*)	21. (*a*)	22. (*a*)	23. (*b*)	24. (*a*)
25. (*b*)	26. (*c*)	27. (*d*)	28. (*e*)	29. (*e*)	30. (*b*)
31. (*d*)	32. (*c*)	33. (*d*)	34. (*b*)	35. (*d*)	36. (*c*)
37. (*a*)	38. (*a*)	39. (*c*)	40. (*d*)	41. (*d*)	42. (*d*)
43. (*e*)	44. (*d*)	45. (*a*)	46. (*b*)	47. (*e*)	48. (*c*)
49. (*c*)	50. (*c*)	51. (*b*)	52. (NAILS)		
53. (CHRIST)		54. (CAPTAIN)			
55. (MONARCHY)		56. (*b*)	57. (*c*)	58. (*c*)	59. (*c*)
60. (*b*)	61. (*c*)	62. (*c*)	63. (*b*)	64. (*c*)	65. (*b*)
66. (*b*)	67. (*c*)	68. (*b*)	69. (*d*)	70. (*c*)	71. (*d*)
72. (*c*)	73. (*c*)	74. (*d*)	75. (*c*)		

CHAPTER 13

Matching and Relationship Tests

1. Escort is to visitor as a guide is to ?
   (*a*) student (*b*) monument
   (*c*) sport (*d*) destination
2. Butter is to bread as bark is to ..... ?
   (*a*) horse (*b*) tree
   (*c*) skin (*d*) shed
3. Bird is to nest as horse is to ..... ?
   (*a*) sheer (*b*) mare
   (*c*) lowest (*d*) stable
4. Choose a word from PLOWSHARE from the following :
   (*a*) sheer (*b*) shower
   (*c*) lowest (*d*) plywood
5. Choose a word from VULTURE from the following :
   (*a*) tear (*b*) ultra
   (*c*) lure (*d*) vulcan
6. Choose a word from IRREGULAR from the following :
   (*a*) religion (*b*) relative
   (*c*) regular (*d*) religious
7. Choose a word from NEUTRAL from the following :
   (*a*) nor (*b*) new
   (*c*) neat (*d*) not
8. If 42152 stand for PEACE, then 4152 stand for :
   (*a*) ACPE (*b*) PACE
   (*c*) AACE (*d*) CAPE
9. If SYSTEM stands for 252146, STEM stands for :
   (*a*) 1642 (*b*) 1246
   (*c*) 2146 (*d*) 1624

10. If GUIDE stands for 35214, then DUG stands for
    (*a*) 531 (*b*) 153
    (*c*) 351 (*d*) 135
11. If BATHE stands for 23541, then TEA stands for :
    (*a*) 315 (*b*) 135
    (*c*) 513 (*d*) 531
12. ABCD : DCBA : : WXYZ : ?
    (*a*) XZYW (*b*) YZYW
    (*c*) ZYXW (*d*) WXYZ
13. LEOP (.....) OR
    (*a*) ARD (*b*) ALP
    (*c*) ACD (*d*) ASP
14. FLA (.....) OOK
    (*a*) IM (*b*) SH
    (*c*) PH (*d*) TE
15. BE (.....) ASS
    (*a*) IM (*b*) OM
    (*c*) AM (*d*) EM
16. Author is to Book as ..... is to Satue
    (*a*) Pilot (*b*) Sculptor
    (*c*) Trees (*d*) Brush
17. Bed is to Bedroom as Lock is to
    (*a*) Spoon (*b*) Almirah
    (*c*) Key (*d*) Brush
18. Pen is to Ink as Ink is to .....
    (*a*) Table (*b*) Pencil
    (*c*) Pot (*d*) Scale

In each of the following questions, a word is missing. Select from the given alternatives the word that most suitably completes the problem.

Example

Brother and Sister : ..... and daughter
(*a*) sun (*b*) son
(*c*) mother (*d*) father
(*e*) uncle

The answer, here, is 'son', *i.e.*, (*b*), If with brother, it is sister that completes the order, so with daughter, it should be son.

19. Teat and coffee, Bread and .....
    (*a*) brick (*b*) blood (*c*) bones
    (*d*) beam (*e*) butter

20. Author and Book ..... and Statue
    (*a*) Pilot (*b*) Trees (*c*) Driver
    (*d*) Stones (*e*) Sculptor

21. ..... and Church, Monk and Monastry
    (*a*) Painter (*b*) Administrator (*c*) Artist
    (*d*) Brahmin (*e*) Priest

22. Niece and ..... Sister and Brother
    (*a*) Cousin (*b*) Aunt (*c*) Daughter
    (*d*) Uncle (*e*) Nephew

23. ..... and Table, Flour and Bread
    (*a*) Barley (*b*) Meal (*c*) Curry
    (*d*) Oil (*e*) Wood

24. Bed and Bedroom, Lock and .....
    (*a*) Spoon (*b*) Key (*c*) Bottle
    (*d*) Almirah (*e*) Brush

25. Desert and Camel, Lion and .....
    (*a*) House (*b*) Stable (*c*) Den
    (*d*) Store (*e*) Nest

26. Cow and Calf, Kitten and .....
    (*a*) Rat (*b*) Crow (*c*) Horse
    (*d*) Lamp (*e*) Cat

27. Pen Ink and .....
    (*a*) Stamp (*b*) Pot (*c*) Scale
    (*d*) Pencil (*e*) Table

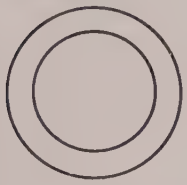
28. Three and Four, Day and .....
    (*a*) Five (*b*) Week (*c*) Night
    (*d*) Year (*e*) Noon

RELATIONSHIP AMONG CLASSES OF THINGS

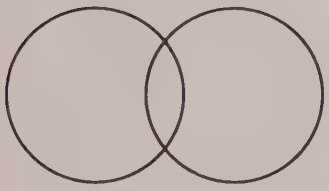
In this part, you are to choose from five diagrams the one that illustrates the relationship among three given classes better than any of the other diagrams offered.

There are three possible relationships between any two different classes:

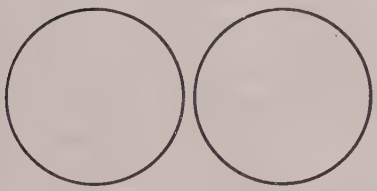
Example :



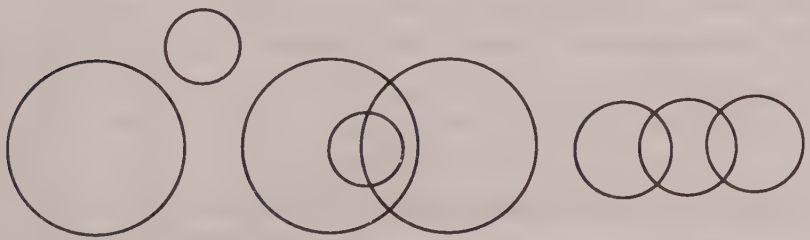
Indicates that One class completely contained in the other, but not vice versa.

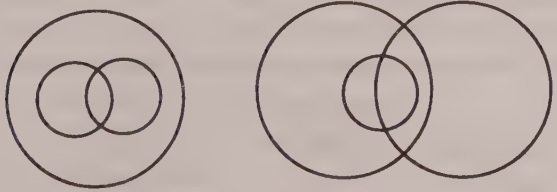


Indicates that Neither class is completely contained in the other, but the two do have members in common.



Indicates that There are no members in common.

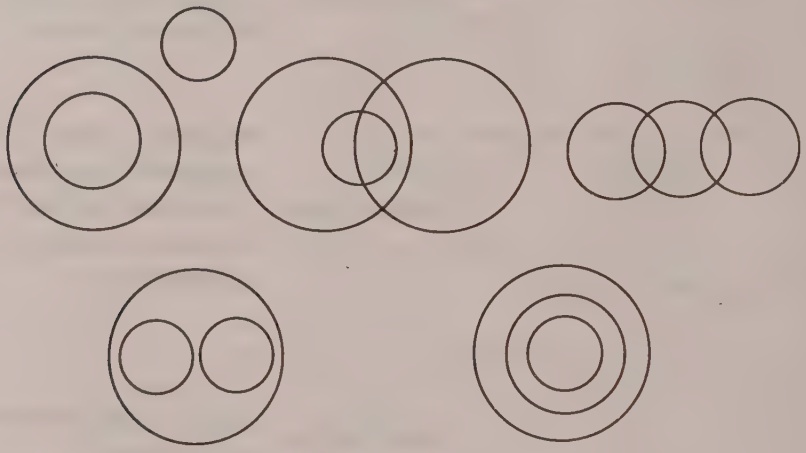




29. Metals, iron, sulphur
30. Males, squirrels, chipmunks
31. Musicians, oboists, science-fiction enthusiast
32. Actresses, human females, golfers

33. Communication devices, telephones, eating utensils
34. Comedians, entertainers, mimes
35. Two-legged animals, jungle animals, jungle bipeds
36. Dogs, cocker spaniels, showdogs

Directions : *Use these choices for questions 37-43.*



37. Daisies, flower, cherries
38. Members of Congress, senators, Republicans
39. The human race, human adults, females
40. Cinnamon, spices, cloves
41. Diamonds, precious stones, emeralds
42. The universe, our solar system, the earth
43. Radicals, energy conservationists, reactionaries

Each question or group of questions is based on a passage or set of statements. In answering some of the questions, it may be useful to draw a rough diagram. Choose the best answer for each question.

Questions 44-46

All C's are either A's or B's.
All A's are C'S.
All B's are C'S.
No G's are H's
Some C's are H's.
Not all H's are C's.

44. Which could not be true ?

I. No G's are C's.
II. No G's are A's.
III. No H's are C's.
IV. No G's are B's.

(*a*) I only
(*b*) II only
(*c*) III only
(*d*) IV only
(*e*) I and IV only

45. Which is inconsistent with the above set of statement ?

I. Some H's are A's.
II. Some H's are B's.
III. Some H's are neither A's no B's.
IV. All G's are A'S.
V. Some H's are G's.

(*a*) I and V only
(*b*) II and V only
(*c*) II and III only
(*d*) IV only
(*e*) V only

46. If all D's are either A's or B's, then which of the following is necessarily false ?

(*a*) All D's are C's.
(*b*) All A's are D's
(*c*) Some B's are D's
(*d*) All D's are H's
(*e*) All H's are D's.

47. Many more people who smoke develop lung cancer than do those who do not smoke.

In the face of this evidence, how could a cigarette company representative argue against the conclusion the cigarette smoking causes lung cancer ?

(*a*) He could ague that many things might cause lung cancer.
(*b*) He could argue that people have the light to endanger themselves if they so choose.
(*c*) He could argue that people have the right to endanger themselves if they so choose.
(*d*) He could argue that people who breathe die, yet no one accuses breathing of causing death.
(*e*) He could argue that people will smoke any how, regardless of the evidence.

48. Women are the equals to men in every activity, including tennis. It's true that Bobby Riggs beat Margaret Court, but he played like a woman and she played like a man.

The main problem with this argument is

(*a*) it is biased toward feminism
(*b*) it assumes that Margaret Court is the best woman player
(*c*) it confuses people with playing styles.
(*d*) it assumes that all women ought to play the same way..
(*e*) it assumes the women are equal to men, and thus constitutes circular reasoning.

REASONS 49-52

All the roads in City Y are either perpendicular or parallel to one another. The roads are all straight. Roads A, B, C, D, and E are parallel to one another. Roads G, H, I, J, K, L, and M are parallel to one another.

Road A is 1 mile east of Road B.
Road B is $\frac{1}{2}$ mile west of Road C.
Road D is 1 mile west of Road E.
Road G is $\frac{1}{2}$ mile south of Road H.
Road I is 1 mile north of Road J.
Road K is $\frac{1}{2}$ mile north of Road L.
Road K is 1 mile south of Road M.

49. Which of the following is necessarily true ?
(*a*) Road I is 1 mile north of Road L.
(*b*) Road D is 2 miles west of Road B.
(*c*) Road E and Road B intersect.
(*d*) Road M is $1\frac{1}{2}$ miles north of Road L.
(*e*) Road D is at least 2 miles west of Road A.

50. If Road E is somewhere between Roads B and C, then which of the following is false ?
(*a*) Road D is less than 1 mile from Road B.
(*b*) Road C is less than $1\frac{1}{2}$ miles from Road D
(*c*) Road E is less than 1 mile from Road A.
(*d*) The distance from Road E to Road B added to the distance from Road E to Road C is $\frac{1}{2}$ mile.
(*e*) Road D is 2 miles west of Road A.

51. Which of the following possibilities would make two roads coincide ?
    (*a*) If Road L is $\frac{1}{2}$ mile north of Road L.
    (*b*) If Road D is 2 mile east of Road A.
    (*c*) If Road I is $\frac{1}{2}$ mile north of Road K.
    (*d*) If Road C is 1 mile west of Road D.
    (*e*) If Roads E and B are $\frac{1}{2}$ mile apart or Roads H and J are $\frac{1}{2}$ mile apart ?

52. If Road X is parallel to Road I and Road X is $\frac{1}{2}$ mile south of Road J and 1 mile north of Road G, which two roads would be $\frac{1}{2}$ mile apart ?
    (*a*) I and X
    (*b*) X and H
    (*c*) J and G
    (*d*) J and H
    (*e*) I and G

53. It is immoral to blame people for what they do. They are simply behaving as they have conditioned to behave and have no choice in the matter. Blaming them will never change their behaviour. The author undercuts his own argument by
    (*a*) adopting dubious psychological theories
    (*b*) undermining morality
    (*c*) attacking human freedom
    (*d*) arguing emotionally
    (*f*) doing what he argues against

54. A line cannot be divided everywhere; therefore, it can't be divided anywhere.

    Which of the following most closely parallels the above piece of fallacious reasoning ?
    (*a*) Nobody likes anybody; therefore, everybody likes nobody.
    (*b*) John can do every problem in this book; so John can do all of the problems in this book.
    (*c*) There are some problems John can't do; therefore there are no problems John can't do.
    (*d*) Any time he's at bat, Bill can hit a homer; so Bill can hit nothing but homers.
    (*e*) No number can be divided by every number; therefore, some number can be divided by no number.

QUESTIONS 55—58

A five-member research group is chosen from mathematicians A, B, C, and D and physicists E, F, G and H. At least three mathematicians must be in the research group. However,

A refuses to work with D.
B refuses to work with E.
F refuses to work with G.
D refuses to work with F.

55. If B is chosen, who else would have to be in the group ?
(*a*) F (*b*) G
(*c*) A (*d*) C
(*e*) D

56. If G is rejected, which other member could not work with the group ?
(*a*) A (*b*) B
(*c*) D (*d*) F
(*e*) D

57. If B and C are chosen, which is necessarily true ?
I. A is Chosen
II. D is chosen
III. Either F or G is chosen.
(*a*) I only (*b*) II only
(*c*) III only (*d*) II and III only
(*e*) neither I, II, or III

58. If H is chosen, which must be true ?
I. A must be chosen
II. B must be chosen
III. G must be chosen
(*a*) I only (*b*) II only
(*c*) III only (*d*) I and III only
(*e*) neither, I, II or III

Find the odd man out.

59. (*a*) moan (*b*) laughter
(*c*) sobs (*d*) tears

60. (*a*) dagger (*b*) spear
(*c*) knife (*d*) scissors

61. (*a*) fine (*b*) pleasant
(*c*) lovely (*d*) awkward

62. (*a*) swing (*b*) captain
(*c*) frustrate (*d*) house

63. (*a*) unicorn (*b*) animal
(*c*) engine (*d*) octagon

64. (*a*) France (*b*) Spain
(*c*) Denmark (*d*) Mongolia

65. Which of the following pairs are most unlike the others ?
(*a*) cold and hot (*b*) east and north
(*c*) short and long (*d*) near and fear

66. State the serial number of pair which is different from others :
(*a*) Master and Srveant (*b*) Flower and Petal
(*c*) Algebra and Mathematics (*d*) Chemistry and Science

Directions : *In the Questions 67 to 75 point out the choice that should be filled up in the blank.*

67. A gram is to weight as a clock is to .....
(*a*) hour (*b*) time
(*c*) alarm (*d*) watch

68. Hard work is to success as treatment is to .....
(*a*) cure (*b*) patient
(*c*) illness (*d*) medicine

69. Moon is to brightness as ornament is to .....
(*a*) gold (*b*) finish
(*c*) lusture (*d*) neck

70. England is to Europe as India is to
(*a*) Pakistan (*b*) China
(*c*) America (*d*) Asia

71. Education is to illiterate as medicine is to .....
(*a*) eat (*b*) patient
(*c*) dispensary (*d*) doctor

72. Four is to April as 7 is to .....
(*a*) July (*b*) day
(*c*) week (*d*) month

73. Bee is to swarm as animal is to .....
(*a*) gate (*b*) cattle
(*c*) herd (*d*) flock

74. Come is to go as entrance is to .....
(*a*) gate (*b*) exit
(*c*) leave (*d*) return

75. Thirst is to water as hunger is to .....
(*a*) month (*b*) belly
(*c*) eat (*d*) food

Directions : *In question 76 to 86 put the following words in their proper order so as to make meaningful sentences.*

76. Professions all teaching of the is noblest.
77. India of there scarcity a scientists is in.
78. The India's of economy backbone is agriculture.
79. Science electric wonderful lamp of invention is a.
80. Workshop hard work and made him honesty capable of a small setting up of own his.
81. What lives in winter, dies in summer and grows with its roots upward ?
82. Why does the leap year come every four years ?
83. Which is the heaviest liquid ?
84. Which device is common to the following ?
(*a*) An electric bell (*b*) Telephone
(*c*) Telegraph (*d*) Generator
85. What have the following in common ?
(*a*) volt (*b*) ampere
(*c*) ohm

Directions : *Indicate the serial number of the right choice.*

86. AZ CX EV ..... ?
(*a*) UB (*b*) GT
(*c*) DW (*d*) EV

87. ACE BDF CEG ..... ?
(*a*) DEM (*b*) CED
(*c*) CED (*d*) DFH

88. If GLAD IS enclosed as INCF, how will STRANGE be encoded ?

89. If MARE is encoded as KCPG, how FULFILLED be encoded ?

90. If PLAN means ABCD, LAND means BCDN, SPAN means MACD, what does NASAL mean ?

91. Think of a letter, which if replaces 'E' in the following words, farms new words. BED, HERD, MET, SET.

92. Point out a single letter which if removed from the TRACK TART TALL TEASE.

93. Think of a single letter which when introduced into the body of the following words forms new words, HER, BED, SET, COT

94. Inset such a word in each of the brackets that could complete the first word and start the second.
(*a*) Sp (.....) ly (*b*) S (.....) t
(*c*) T (.....) ow

95. Insert a word the means the same as the two words outside the brackets.
Weapon (.....) kneel

96. Insert the missing word in the brackets.
Paper (weight) lifter
(*a*) Over (.....) over (*b*) Hand (.....) turn
(*c*) Strap (.....) orchestra

97. Underline the word in the bottom row that goes with all the words in the top row.

side	cast	let	moded	dated
over	out	in	able	take

Directions : *Find out the right equivalent :*

98. (*i*) B is either F or H or I, (*ii*) B is not H. Therefore,
(*a*) B is not F, (*b*) B is not I,
(*c*) No conditions can be drawn (*d*) B is either F or I.

99. If 6 plus 2 make 9 write 'Yes' unless 16 divided by 2 makes 8 in which case write 'No'.
(a) No (b) Yes

100. If 8 added to 6 exceeds 16 write 25 unless 5 and 9 exceeds a dozen, in which case write 50.
(*a*) 50 (*b*) 25

101. If $\frac{1}{4}$ when multiplied by 12 makes 2 write 25 unless $\frac{1}{4}$ when divided by 1/24 equals half a dozen, in which case write Y.
(*a*) False (*b*) Y

102. (*a*) All clothes are shirts, (*b*) All shirts are red.
Therefore, (*c*) All clothes are not red.
(*a*) False (*b*) True

103. Mercury is to pluto as A is to
(*a*) Y (*b*) X
(*c*) Z (*d*) B

104. Brush is to trowel as paint is to
(*a*) Tree (*b*) Fruit
(*c*) Mortar (*d*) Banana

105. Pariah is to favourite as ostracism is to
(*a*) Insolence (*b*) Precedent
(*c*) Climax (*d*) Nepotism

TEST OF ALERTNESS

106. Complete the series :
AACBBBDCCCE ....., ...,
(*a*) EE (*b*) DD
(*c*) DE (*d*) DD.

107. Kesho is 20 years younger than 3/5 of his actual age. What is the present age of Kesho ?

108. If DEAR is coded as O M K N
and LEAK is coded as X M K Y,
then how will you encode the word LEADER ?
(*a*) Y K M O N M (*b*) M X O K M N
(*c*) X M K O M N (*d*) X M K O N M

109. Which choice mentions the last letter of the word rearranged from the following jumbled spelling :
R E S O S T R U ..... (A garment)
(*a*) U (*b*) O
(*c*) R (*d*) S

110. Hemu increases his speed half as much again and Basu increases his twice as much again. If the initial speed was 8 miles per hour, what is the difference in their speeds at the end ?

(*a*) 4 miles (*b*) 12 miles
(*c*) 2 mile

111. What letter is the fourth letter to the left of the letter that is midway between O and M in the word CARDIOGRAPH.
(*a*) 12 (*b*) 16
(*c*) 10 (*d*) 14

112. In a partitioned room there are cats and fowls. They have 15 heads and 50 feet. How many cats are there ?
(*a*) 12 (*b*) 16
(*c*) 10 (*d*) 14

113. A is 5 years younger than B who is 3 times as old as old as C. If C was 10 years old 4 years back, how old will be after 6 years ?
(*a*) 40 years (*b*) 30 years
(*c*) 37 years (*d*) 35 years

114. Find the valve of X in the following :

9	1	25	64
16	4	X	81
25	9	49	100

(*a*) 121 (*b*) 36
(*c*) 25 (*d*) 49

115. A mare does not always have a .....
(*a*) teats (*b*) teeth
(*c*) colt (*d*) tail

116. Find a number which when divided by 4 exceeds 80 by as much as it short of 160 now.

117. Which pair of numbers is dissimilar to others in the following ?
(*a*) 533—527 (*b*) 461—457
(*c*) 223—214 (*d*) 13—5
(*e*) 318—313

118. In the series 67, 57, 52, 42, 37, 27, 22, X, Y.
(A) X stands for 12 and Y stands for 7
(B) Y stands for 12 and X stands for 7
(C) X stands for 5 and Y stands for 15
(D) Y stands for 7 and X stands for 15

(*a*) The statement at D is correct
(*b*) Only the statement at A is correct
(*c*) Both the statements at A and D are correct
(*d*) The statement at C is correct

119. Two numbers consist of the same two digits in reverse order. If the difference between the two numbers is 54, what are the two numbers ?

120. My age is $\frac{3}{4}$th of my brother's age and the difference between our ages is 6 years. My brother's age must be .....
(*a*) 36 years (*b*) 14 years
(*c*) 24 years (*d*) 28 years

121. Find the group of missing letters in the sequence given below :
a a — — b b a — a b — b b
(*a*) abab (*b*) abaa
(*c*) bbab (*d*) aaab

122. Name the choice which will fit in the blank space
x x y — x y — x x y y —
(*a*) x y x (*b*) y y y
(*c*) x y y (*d*) y x x

123. A student was required to multiply a number 2 and add 3 to it. He instead added 3 to it first and then multiplied by 2. If the answer he got was 20, the correct answer would be
(*a*) 19 (*b*) 23
(*c*) 17 (*d*) 20

124. Ram walks 1 km. East of his house, then 1 km. North, 2 km. East, 3 km. South and 3 km West. To reach his house, he must walk —
(*a*) 1 km South (*b*) 2 km South
(*c*) 2 km North (*d*) 1 km North

125. If Nuri is taller than Guni and Rekha is also taller than Guni then
(*a*) Guni is the tallest
(*b*) Nuri is the tallest
(*c*) It cannot be concluded from the above statements as to who is the tallest
(*d*) Rekha is the tallest

126. Suppose is an imaginary mathematical system, addition is represented by the symbol (x), subtraction by (+), multiplication by (+) and division by (–) in this system what is the value of the following expression.

$$300 + 5 - 15 \times 7$$

(*a*) 16 (*b*) 300
(*c*) 1625 (*d*) 107

127. If 2 eggs boil together in one minute, in how much time will 10 eggs boil if put together in the same pan ?
(*a*) 10 minutes (*b*) 1 minute
(*c*) 5 minutes

128. A. All girls do not like to marry.
B. Some girls do not marry.
If the above two statements are true, state which of the following statements (X) and (Y) are valid ?
(X) : All girls like to marry
(Y) : All girls do not marry.
(*a*) Both (X) and (Y) are valid
(*b*) (X) is valid
(*c*) Y is valid
(*d*) Both (X) and (Y) are invalid

129. If PAINT is coded as 74128 and EXCEL is coded as 93596, then how would you encode ACCEPT ?
(*a*) 735961 (*b*) 554978
(*c*) 455978 (*d*) 547978

130. A student had thrice as many wrong sums as he had right. If he attempted 32 sums in all, how many did he solve correctly ?
(*a*) 4 (*b*) 6
(*c*) 8

131. Name the two choices which are composed of the same digits.

(1) 74281 (2) 1854 (3) 64253
(4) 24187 (5) 26518 (6) 48256

(*a*) (6) (3) (*b*) (1) (2)
(*c*) (1) (4) (*d*) (5) (2)

132. In the series 45, 35, 30, 20, 15, P, Q
(X) Q stands for – 5
(Y) P stands for + 5
(*a*) Both statements are correct
(*b*) Statement Y is correct but X is incorrect
(*c*) Statement X is correct
(*d*) Statement Y is correct

133. If 8514 stands for BEAD and 3165 stands for LATE then which choice stands for the word TABLE ?
(*a*) 61853 (*b*) 61544
(*c*) 61835 (*d*) 86145

134. Two numbers are in the ratio 1 : 5. If 5 is added to each number, their ratio becomes 1 : 4. State the number of the choice which gives the correct pair of numbers.
(*a*) 20, 100 (*b*) 10, 50
(*c*) 16, 80 (*d*) 15, 75

135. Harpreet first decreased a number by 20 and then added 20% to the result. If the final number differed from the original number by 8, then the original number was :
(*a*) 400 (*b*) 300
(*c*) 100 (*d*) 200

136. There is some similarity in the three of the following groups in each column, but the fourth is different in some way. State the numbers of the dissimilar groups.

A	B
1. K L P O	1. T S W X
2. B C G F	2. O P T U
3. R S V W	3. F E I J
4. M N R Q	4. O N S R

(*a*) A 2, B 1 (*b*) A 1, B 3
(*c*) A 3, B 3 (*d*) A 4, B 2

137. All beggars are poor. Which of the following statements expresses a conclusion that logically follows from the above statement ?
(*a*) If A is rich then A is not a beggar
(*b*) If A is not rich, then A is not a beggar

(*c*) If A is a beggar, then A is not rich
(*d*) All those who are poor are beggars

138. Re-arrange the spellings of the following words to form sensible words and state the number of choice which gives the last letter of the correct word.

SOLVELARMU.....(WONDERFUL)

(*a*) M (*b*) U
(*c*) A (*d*) S

139. Write the number of the pair which is different from the other pairs in the following :

(*a*) Mercury and Barometer (*b*) Oil and Bottle
(*c*) Arrow and Quiver (*d*) Letter and Postman

140. (A) No pilots are free from accidents.
(B) All pilots are human beings.
If the above two statements are correct, then
(X) No human beings are free from accidents.
(Y) An expert pilot is free from accidents.

(*a*) Both X and Y are valid (*b*) Y is valid
(*c*) Niether X nor Y is valid (*d*) X is valid

141. Name the serial number out of the following groups of letters forming a pair which consist of the same letter of the alphabet :

(*a*) O Y G M R (*b*) G M R V Y
(*c*) L Z W D R (*d*) J C H Q N
(*e*) B E T Q K (*f*) H Q N J C
(*e*) B T P K E (*h*) D L S W Z

142. Read the statements below, carefully paying attention to their relation to one another. Then next to each statement mark (*a*), (*b*), (*c*) or (*d*) as indicated.

(*a*) If the statement contains the central idea around which most of the statements can be grouped.

(*b*) If the statement contains a main supporting idea or the central idea.

(*c*) If the statement contains an illustative fact or detailed statement relating to a main supporting idea.

(*d*) If the statement contains an idea or ideas which are irrelevant.

1. The Roman roads connected all parts of the Empire with Rome.
2. The Roman roads were so well built that some of them remain today.
3. One of the greatest achievements of the Romans was their extensive and durable system of roads.
4. Wealthy travellers in Roman times used horse drawn coaches.
5. Along Roman roads caravans would bring to Rome luxuries from Alexandria and the East.
6. In present day Italy some of the roads used are original roads.

ANSWERS

1. (*b*)	2. (*b*)	3. (*d*)	4. (*b*)	5. (*c*)	6. (*c*)
7. (*c*)	8. (*b*)	9. (*c*)	10. (*b*)	11. (*c*)	12. (*c*)
13. (*c*)	14. (*b*)	15. (*c*)	16. (*b*)	17. (*c*)	18. (*c*)
19. (*e*)	20. (*e*)	21. (*e*)	22. (*e*)	23. (*b*)	24. (*b*)
25. (*c*)	26. (*e*)	27. (*d*)	28. (*b*)	29. (*a*)	30. (*c*)
31. (*b*)	32. (*b*)	33. (*a*)	34. (*d*)	35. (*e*)	36. (*d*)
37. (*a*)	38. (*b*)	39. (*b*)	40. (*d*)	41. (*d*)	42. (*e*)
43. (*c*)	44. (*c*)	45. (*e*)	46. (*e*)	47. (*b*)	48. (*c*)
49. (*d*)	50. (*e*)	51. (*c*)	52. (*b*)	53. (*e*)	54. (*d*)
55. (*d*)	56. (*e*)	57. (*c*)	58. (*b*)	59. (*b*)	60. (*d*)
61. (*d*)	62. (*c*)	63. (*d*)	64. (*d*)	65. (*b*)	66. (*a*)
67. (*b*)	68. (*a*)	69. (*c*)	70. (*d*)	71. (*b*)	72. (*a*)
73. (*d*)	74. (*b*)	75. (*d*)			

76. Of all the professions teaching is the noblest.
77. There is a scarcity of scientists in India.
78. Agriculture is the backbone of India's economy.
79. Electric lamp is a wonderful invention of science.
80. Hardwork and honesty made him capable of setting up a small workshop of his own.
81. (snow) 82. Every 4th year has 366 83. (Mercury)
84. (Magnet) 85. (Electricity) 86. (*ii*)

87. (*iv*)(UVTCPIG). 89. (USJDGJJCB) 90. (DCMBC)
91. (A) 92. (T) 93. (A) 94. (ear) 95. (attack)
96. (out) 97. (out) 98. (*d*) 99. (*a*) 100. (*a*) 101. (*b*)
102. (*a*) 103. (*c*) 104. (*c*) 105. (*d*) 106. (*d*)
107. (50 years) 108. (*c*) 109. (*c*) 110. (*b*) 111. (*c*)
112. (*c*) 113. (*c*) 114. (*c*) 115. (*c*) 116. (120)117. (*c*)
118. (*c*) 119. (28, 82) 120. (*c*) 121. (*a*) 122. (*c*)
123 (*c*) 124. (*c*) 125. (*d*) 126. (*c*) 127. (*b*) 128. (*d*)
129. (*c*) 130. (*c*) 131. (*c*) 132. (*d*) 133. (*c*) 134. (*d*)
135. (*d*) 136. (*c*) 137. (*c*) 138. (*d*) 139. (*d*) 140. (*c*)
141. (*d*) and (*f*) 142. 1(*b*) 2(*b*) 3(*a*) 4(*d*) 5(*c*) 6(*d*)

CHAPTER 14

Language Proficiency Tests

In each question, a word is given and below are given a series of other words which can be formed from the word given in the question. Of these other words, there is one word that cannot be formed from the word in the question. You have to select that word. An example is given below :

Example

BEAUTIFUL

(*a*) But (*b*) Beat (*c*) ERT
(*d*) Toil (*e*) Bear

The answer here is 'Bear', i.e., (*e*). The word '*r*' does not appear in the word 'Beautiful'. Hence (*e*) is the answer.

1. TOILET
   (*a*) Toll (*b*) Tot (*c*) Let
   (*d*) Toil (*e*) Toe
2. RHETORIC
   (*a*) Rot (*b*) Rhetor (*c*) Tonic
   (*d*) Rite (*e*) Roe
3. STRATEGY
   (*a*) Tear (*b*) Set (*c*) Tort
   (*d*) Gate (*e*) Tyre
4. OFFSPRING
   (*a*) Ring (*b*) Spring (*c*) Offing
   (*d*) off (*e*) often
5. MYSTERIOUS
   (*a*) Sister (*b*) Tyre (*c*) Yes
   (*d*) year (*e*) System

6. MOTHERLAND
   (*a*) Mothers (*b*) More (*c*) Rod
   (*d*) Rat (*e*) Land
7. KINGDOM
   (*a*) God (*b*) Sing (*c*) Kid
   (*d*) Kin (*e*) King
8. INFAMOUS
   (*a*) Man (*b*) Fin (*c*) Famous
   (*d*) Fan (*e*) Mouse
9. EFFICIENCY
   (*a*) Fin (*b*) Fee (*c*) Efficacy
   (*d*) Niece (*e*) Fief
10. DAUGHTER
   (*a*) Dear (*b*) Hat (*c*) Read
   (*d*) Tear (*e*) After

ANTONYMS

In each question below, you will find a capitalised word followed by five alternative words. Choose the alternative word which is opposite in meaning to the capitalized word.

11. INCREMENT
   (*a*) distortion (*b*) innocence (*c*) excrement
   (*d*) decrease (*e*) embrace
12. OCCIDENTAL
   (*a*) oriental (*b*) supplemental (*c*) accidental
   (*d*) confidential (*e*) coincidental
13. COGENT
   (*a*) complaining (*b*) incoherent (*c*) unconvincing
   (*d*) bothersome (*e*) outspoken
14. EPHEMERAL
   (*a*) highly critical (*b*) aflame (*c*) sincere
   (*d*) permanent (*e*) feminine
15. EXTANT
   (*a*) instant (*b*) intent (*c*) destroyed
   (*d*) inside (*e*) stopping short

16. REFRACTORY
(*a*) chilly (*b*) obedient (*c*) renewing
(*d*) unsatisfactory (*e*) blasphemous

17. RENEGADE
(*a*) traitor (*b*) positive person (*c*) loyalist
(*d*) escapade (*e*) one who cancels

18. TURGID
(*a*) deflated (*b*) sanitary (*c*) colorless
(*d*) resistant (*e*) agile

19. PRATE
(*a*) run a risk (*b*) refuse to pray
(*c*) determine the cost (*d*) prey on passersby
(*e*) refrain from speaking

20. CONSTANT
(*a*) by chance (*b*) contagious (*c*) restored
(*d*) wordless (*e*) opposed

21. FURTIVE
(*a*) open (*b*) hesitant (*c*) willing
(*d*) permissive (*e*) ghostly

22. MUNDANE
(*a*) timely (*b*) playful (*c*) frightening
(*d*) extraordinary (*e*) ridiculous

23. POLEMIC
(*a*) farce (*b*) cancellation (*c*) agreement
(*d*) continuation (*e*) catastrophe

24. CONTRAVENE
(*a*) filter (*b*) create (*c*) beautiful
(*d*) obey (*e*) extract

25. LIMBER
(*a*) rigid (*b*) relaxed (*c*) obey
(*d*) slight (*e*) unfortunate

26. SCHISM
(*a*) union (*b*) reduction (*c*) concealment
(*d*) calm (*e*) clumsiness

27. FLINCH
(*a*) pierce (*b*) revive (*c*) extol
(*d*) advance (*e*) offend

28. VILIFY
(*a*) organise (*b*) civilize (*c*) restrain
(*d*) warm (*e*) commend

29. POLITIC
(*a*) poetic (*b*) condescending (*c*) tactless
(*d*) shy (*e*) rustic

30. FECUND
(*a*) timid (*b*) time-consuming (*c*) innocent
(*d*) barren (*e*) resentful

31. STRIDENT
(*a*) significant (*b*) honest (*c*) skinny
(*d*) simple (*e*) Pleasant

DISSIMILAR WORDS

Discard the odd ones but in the following :

32. (*i*) grapes (*ii*) banana
(*iii*) almond (*iv*) apple

33. (*i*) pond (*ii*) stream
(*iii*) spring (*iv*) river

34. (*i*) dejected (*ii*) gay
(*iii*) happy (*iv*) cheerful

35. (*i*) scissors (*ii*) sword
(*iii*) needle (*iv*) knife

36. (*i*) lion (*ii*) wolf
(*iii*) needle (*iv*) cat

37. (*i*) dagger (*ii*) atom bomb
(*iii*) gun (*iv*) pistol

38. (*i*) milk (*ii*) wheat
(*iii*) rice (*iv*) barley

39. (*i*) goat (*ii*) bitch
(*iii*) buffalo (*iv*) cow

40. (*i*) football (*ii*) cricket
(*iii*) chess (*iv*) hockey

41. (*i*) Holland (*ii*) India
(*iii*) Poland (*iv*) Germany

SENTENCE COMPLETIONS

Each of these sentences has one or two blank spaces, each blank indicating a word that has been omitted. Beneath the sentence are five alternative words or sets of words. You are to choose the one word or set of words or sets of words. You are to choose the one word or set of words which, when inserted in the sentence, best fits in with the meaning of the sentence as a whole.

42. The problem of pollution must be ..... studied before we can overcome it.
    (*a*) commendably (*b*) primarily
    (*c*) adequately (*d*) virulently
    (*e*) monetarily

43. Though he was realistic and pragmatic in most things, he was an ardent devotee of plays of .....
    (*a*) politics (*b*) satire
    (*c*) realism (*d*) fantasy
    (*e*) emotion

44. Officials are still ..... the reports in what is obviously an atmosphere of ..... concern.
    (*a*) undulating ..... fervid
    (*b*) debating ..... immaterial
    (*c*) mitigating ..... vivid
    (*d*) analyzing ..... mounting
    (*e*) persuading ..... grave

45. The ..... bussing law was declared unconstitutional by the court in the USA..
    (*a*) contennial (*b*) contemporary
    (*c*) substantial (*d*) controversial
    (*e*) cumulative

46. He struggled to maintain his ..... in the face of the threatening mob.
    (*a*) umbrage (*b*) composure
    (*c*) synthesis (*d*) analogy
    (*e*) fraternity

47. not only did he display ..... manners but his whole attitude betrayed his ..... for these people whom he considered his inferiors.

(*a*) benign ..... attrition
(*b*) elegant ..... frustration
(*c*) abominable ..... contempt
(*d*) peculiar ..... anxiety
(*e*) revolting ..... indignation

48. They talk a good deal about using ..... but deep down they seem to expect that society will treat them with ..... if they do so.
(*a*) machinations ..... relish
(*b*) insubordination ..... revulsion
(*c*) theology ..... reverence
(*d*) violence ..... indulgence
(*e*) intellect ..... appreciation

49. With a less ..... expansion of the economy, we should make ..... progress toward stable price levels.
(*a*) rapid ..... substantial
(*b*) noticeable ..... approximate
(*c*) marked ..... detailed
(*d*) indicated ..... definite
(*e*) suitable ..... infinite

50. In spite of its limited ..... the magazine had a strong ..... on political thought in the country.
(*a*) circulation ..... influence
(*b*) dimension ..... intensity
(*c*) appeal ..... repression
(*d*) values ..... survival
(*e*) insights ..... reminder

51. Since electrical appliances can deliver a ..... shock, it is important to provide ..... inspection and checking facilities in their manufacture.
(*a*) lethal ..... adequate
(*b*) therapeutic ..... intensive
(*c*) massive ..... intricate
(*d*) recognizable ..... oblique
(*e*) bizarre ..... fastidious

ANOTHER TYPE OF SENTENCE COMPLETION QUESTIONS

If people's eyes were not sensitive to blue light, objects which now appear blue would appear .....

Items of this type are satisfactory as long as they deal with unambiguous matter that demands answers of no more than one or two words. Should the item demand complex reasoning that takes longer to explain, there is every chance that it would attract a bewildering variety of answers that would be very difficult to assess and equate.

Each of these sentences has one or two blank spaces, each blank indicating that a word has been omitted ? Beneath the sentence are five choices of word or set of words. You are to choose only one word or set of words which, when inserted in the sentence, best fits in with the meaning of the sentence as a whole.

52. World War II was responsible for ..... new ..... in average people.
    (*a*) effecting ..... aspirations
    (*b*) aggregating ..... performance
    (*c*) operating ..... commodities
    (*d*) apportioning ..... outlooks
    (*e*) implementing ..... diversions

53. Because of his ..... driving, the other car was forced to turn off the road or be hit.
    (*a*) placid
    (*b*) exemplary
    (*c*) perceptive
    (*d*) negligent
    (*e*) resourceful

54. Since the bill was ..... an excellent
    (*a*) granted ..... biased
    (*b*) precluded ..... numerous
    (*c*) applauded ..... diligent
    (*d*) accorded ..... impartial
    (*e*) reported ..... anonymous

55. Many young people, even from ..... backgrounds, show their ..... by opposing the establishment.
    (*a*) repressed ..... visibility
    (*b*) disadvantageous ..... connection

(*c*) immature ..... indigency
(*d*) affluent ..... alienation
(*e*) morose ..... ingenuity

56. The dogmatist at either end of the political spectrum ..... believes in freedom for himself but not for those who ..... his ideologies.
(*a*) inherently ..... pursue
(*b*) firmly ..... belabor
(*c*) vehemently ..... support
(*d*) characteristically ..... reject
(*e*) suitable ..... require

57. Their married life was not ..... since it ended in divorce.
(*a*) cogent (b) imminent
(*c*) nubile (*d*) tranquil
(e) obvious

58. Life arose on the earth billions of years ago through the ..... of ..... matter into man.
(*a*) transformation ..... inanimate
(*b*) contraction ..... astronomical
(*c*) ecology ..... mobile
(*d*) reduction ..... existent
(*e*) induction ..... physical

59. A child should not be ..... as being either very shy or over-aggressive.
(*a*) instructed (*b*) refrained
(*c*) intoned (*d*) categorized
(*e*) distracted

60. The fact is that surface fleets are becoming increasingly ..... in the nuclear age, but the Navy understandably, is reluctant to ..... this.
(*a*) powerful ..... redress
(*b*) obsolete ..... concede
(*c*) diverse ..... resist
(*d*) mechanized ..... disrupt
(*e*) complex ..... enhance

61. Some people respond to a threat of rejection by becoming very ....., while others ..... and become again like little dependent children.
(*a*) concise ..... objectify
(*b*) militant ..... regress
(*c*) impulsive ..... diminish
(*d*) indignant ..... revive
(*e*) amiable ..... procrastinate

62. His choice for the new judge won the immediate ..... of city officials, even though some of them had ..... about him.
(*a*) acclaim ..... reservations
(*b*) disdain ..... information
(*c*) apprehension ..... dilemmas
(*d*) vituperation ..... repercussions
(*e*) enmity ..... preconception

63. The fact that the ..... of confrontation is no longer as popular as it once was ..... progress in race relations.
(*a*) practice ..... inculcates
(*b*) reticence ..... indicates
(*c*) glimmer ..... foreshadows
(*d*) insidiousness ..... reiterates
(*e*) technique ..... presages

64. Without the ..... to think imaginatively, man could never have developed .....
(*a*) premonition ..... civilization
(*b*) inhibition ..... aesthetics
(*c*) apparatus ..... presumption
(*d*) capacity ..... architecture
(*e*) animosity ..... creation

65. In case of emergency, the crew must ..... all possible material.
(*a*) atrophy
(*b*) duplicate
(*c*) incinerate
(*d*) emulate
(*e*) jettison

66. The quotation was erroneously ..... to a British poet.
(*a*) resolved
(*b*) attributed
(*c*) activated
(*d*) relegated
(*e*) vitiated

67. Use of air conditioners and other electrical apparatuses had to be ..... that summer because of the ..... of the generating system.
(*a*) postulated ..... reaction
(*b*) curtailed ..... inefficiency
(*c*) implemented ..... residuals
(*d*) augmented ..... responsiveness
(*e*) manipulated ..... intensity

68. Despite their seeming ..... the subjugated tribes secretly did their best to ..... their conquerors.
(*a*) acquiescence ..... thwart (*b*) harmony ..... assist
(c) enmity ..... foil (*d*) rebellion ..... embarrass
(*e*) resistance ..... vindicate

69. Legal ..... initiated by the government necessitates that manufacturers use ..... in choosing food additives.
(*a*) entanglements ..... knowledge
(*b*) devices ..... intensification
(*c*) talents ..... decretion
(d) proclivities ..... moderation
(*e*) restraints ..... caution

70. A really ..... person would never be ..... enough to think that he is always right.
(*a*) sophisticated ..... native (*b*) intricate ..... reverent
(c) demented ..... articulate (*d*) fortified ..... neurotic
(*e*) dedicated ..... humble

71. ..... surveillance includes the use of tape recorders and microphones.
(*a*) Legitimate (b) Voluntary
(*c*) Sporadic (d) Electronic
(*e*) Biological

72. A ..... on the manufacture of nuclear weapons would help lead to ..... on arms limitations.
(*a*) deficit ..... perseverance
(*b*) moratorium ..... negotiations
(*c*) referendum ..... inhibitions
(*d*) disagreement ..... intrusion
(*e*) concession ..... pacification

COMPREHENSION

73. The author seems to question the sincerity of .....
(*a*) politicians (*b*) playwrights
(*c*) opera goers (*d*) "Low brows"
(*e*) grave diggers

74. There is no need for ....., we can defeat the enemy.
(*a*) dearth (*b*) danger
(c) distinction (*d*) dispair

75. The walls of the jail are very high to ..... criminals from escaping.
(*a*) allow (b) courage
(c) encourage (*d*) discourage

76. The mob was peaceful but suddenly turned .....
(*a*) righteous (b) riot
(c) ritual (*d*) riotous

77. The poor ..... of the village lived in huts.
(*a*) inhabitants (b) citizen
(*c*) residents (*d*) originals

78. He uttered a lie and this ..... his father's anger.
(*a*) created (b) increased
(*c*) yielded (*d*) aroused

79. The examination has been .....
(*a*) held (b) poned
(c) posted (*d*) postponed

80. The police made an ..... arrangement for the safety of the passengers.
(*a*) all (b) enough
(c) adequate (*d*) elaborate

81. Who ..... the South Pole ?
(*a*) went (b) devised
(c) invented (*d*) explored.

82. In summer the water in the wells ..... rapidly.
(*a*) less (b) changes
(c) reduce (*d*) diminishes

83. On heating water is ..... into steam.
(*a*) transformed (b) converted
(*c*) changed

84. In the office he is not in the good books of his .....
(*a*) Office (b) friends
(c) superiors (*d*) mates

85. ..... is not good for health.
(*a*) anxiety (*b*) irritate
(*c*) milk (*d*) water

86. Smoke from the industries ..... the atmosphere.
(*a*) is hazardous to (*b*) changes
(*c*) makes bad (*d*) pollutes

87. In fact a man learns more from his .....
(*a*) field (*b*) books
(*c*) environment (*d*) nature

88. Too much of religion leads to .....
(*a*) money (*b*) responsible
(*c*) intolerance (*d*) response

89. Rising prices have made it difficult to maintain a good ..... of living.
(*a*) standard (*b*) style
(*c*) self (*d*) stand

90. An honest man is liked and ..... by everyone.
(*a*) response (*b*) respect
(*c*) responsible (*d*) respected

91. Writing books is not a ..... career.
(*a*) rewarding (*b*) awarding
(*c*) reward (*d*) warding

92. He died before he could complete his .....
(*a*) graphy (*b*) biography
(*c*) autobiography (*d*) monography

93. He has become ..... because of his old age.
(*a*) starve (*b*) strong
(*c*) strange (*d*) sluggish

94. He died after a ..... illness.
(*a*) big (*b*) great
(*c*) serious (*d*) seriously

95. The members of the team were selected in a ..... manner
(*a*) happy (*b*) relief
(*c*) generally (*d*) haphazard

96. I want a place where I can work without .....
(*a*) change (*b*) delay
(*c*) boring (*d*) interruption

97. He wanted advice as how they could ..... funds for their new entreprise.
(*a*) persuade (*b*) gain
(*c*) profit (*d*) procure

98. It is the ..... who succeeds in the long run.
(*a*) diligent (*b*) hand
(*c*) working (*d*) dull

99. Milk is a ..... food for children.
(*a*) adequate (*b*) some
(*c*) whole (*d*) wholesome

100. The new management of the company has ..... changed its working.
(*a*) fully (*b*) completely
(*c*) wholly (*d*) extremely

101. It is difficult to spell his name .....
(*a*) fully (*b*) completely
(*c*) wholly (*d*) correctly

102. It is ..... but true.
(*a*) informal (*b*) indeligent
(*c*) inaccurate (*d*) incredible

103. Kindly send the books by ..... post.
(*a*) registry (*b*) registrar
(*c*) register (*d*) registered

104. The government has ordered a ..... inquiry into the police firing.
(*a*) advocate (*b*) governmental
(*c*) judicial (*d*) legal

105. His arguments were not adequate to ..... the judge.
(*a*) impress (*b*) permission
(*c*) convince (*d*) please

106. Adequate ..... must be taken to avoid accidents
(*a*) danger (*b*) cautions
(*c*) precautions (*d*) warning

107. We decided to ..... to the schedule as it was originally planned.
(*a*) keep (*b*) retain
(*c*) adhere (*d*) demand

108. His ..... for the property is legitimate.
(*a*) part (*b*) claim
(*c*) share (*d*) same

109. He drinks a ..... amount of coffee.
(*a*) excess (*b*) less
(*c*) greatest (*d*) moderate

110. We ..... when we came to know that he escaped unhurt.
(a) laugh (*b*) joyed
(*c*) happy (*d*) rejoiced

111. They were ..... to wait till the signal was given.
(*a*) commanded (*b*) told
(*c*) said (*d*) asked

112. He consoled the ..... mother as best he as he could.
(*a*) lucky (*b*) luck
(*c*) fortune (*d*) unfortunate

113. Food has ..... ten lives.
(*a*) asked (*b*) taken
(*c*) demanded (*d*) claimed

114. A good teacher ..... his students to work hard.
(*a*) allows (*b*) inspires
(*c*) induces (*d*) forces

115. There is no harm in being ..... from time to time.
(*a*) ill (*b*) healthy
(*c*) humorous (*d*) happy

116. Food, are and water are ..... to life.
(*a*) needed (*b*) adequate
(*c*) essential (*d*) enough

117. He did not ..... of the air crash.
(*a*) life (*b*) die
(*c*) live (*d*) survive

118. The Aryans ..... to India.
(*a*) gone (*b*) invaded
(*c*) migrated (*d*) settled

119. The girl was ..... in the water.
(*a*) drowned (*b*) sink
(*c*) down (*d*) submerged

120. His proposal fell out for ..... of support.
(*a*) want (*b*) little
(*c*) need (*d*) required

121. A ..... man will never stoop to meanness.
(*a*) bad (*b*) cunning
(*c*) insane (*d*) sensible

122. Virtue is its own .....
(*a*) gain (*b*) gift
(*c*) reward (*d*) cost

123. What does the box ..... ?
(*a*) made (*b*) consist
(*c*) comprised (*d*) contain

124. India has been ..... many times by foreign rulers.
(*a*) waring (*b*) defeated
(*c*) invaded (*d*) fought

125. He is fond of ..... jokes.
(*a*) suggesting (*b*) throwing
(*c*) boasting (*d*) cracking

126. Your answer book will be ..... with the help of a computer.
(*a*) seen (*b*) tested
(*c*) judged (*d*) evaluated

127. I can point out several ..... in your reasoning.
(*a*) cordial (*b*) flaws
(*c*) weak (*d*) flawless

128. His argument is not .....
(*a*) reluctant (*b*) convincing
(*c*) vincing (*d*) confident

129. Modern science has made ..... advance.
(*a*) objective (*b*) incredible
(*c*) illegible (*d*) legitimate

130. Name the letter which follows the second consonant after the third vowel in the alphabet.
(*a*) M (*b*) J
(*c*) L (*d*) K

131. ..... these stamps on the envelope.
(*a*) Remove (*b*) Put
(*c*) Affix

132. There is an *argument* between the two brothers over the land :
(*a*) fight (*b*) quarrel
(*c*) dispute (*d*) complaint

133. Man is a *social animal.*
(*a*) jovial (*b*) talkative
(*c*) gregarious

134. During the war, *restrictive regulations* were imposed on all the principal towns.
(*a*) police vigilance (*b*) warning
(*c*) curfew

135. Put the following words in alphabetical order :
(*a*) Election (*b*) Enter
(*c*) Examination (*d*) Engagement
(*e*) Eloquence

FORMING MEANINGFUL WORDS

Questions 136 to 139 are based on the following five words :

(1) LIMERICK (2) OBDURATE (3) LANTERN (4) ZEPHYR (5) MAGNILOQUENCE. According to the instructions given in each question use the letters of the words and form a meaningful word. Your answer should be the alternative which gives the last letter of the new word so formed.

136. Form a word using the fifth, seventh and eighth letters of the second word; the second and fourth letters of the third word; and the first letter of the fifth word.
(*a*) M (*b*) T
(*c*) R (*d*) E

137. Form a word using the second and fifth letters of the first word; the first, fifth and seventh letters of the second word; and the second and fourth letters of the third word.

(*a*) O (*b*) A

(*c*) C (*d*) E

138. Form a word using the second third and fifth letters of the first word; the third and eighth letters of the second word; the second and fourth letters of the third word; the first letter of the fourth word; and the second letter of the fifth word.

(*a*) M (*b*) T

(*c*) D (*d*) E

139. Form a word using the second and fourth letters of the first word; the third letter of the second word; the second and third letters of the third, and the first letter of the fifth word.

(*a*) D (*b*) N

(*c*) A (*d*) M

140. Think of a single letter, which when introduced into body of the following words, forms new words.

MAN, WED, LAD, HAT

(*a*) O (*b*) Y

(*c*) E (*d*)

141. Name a 3-letter group which can be prefixed by all the following to form sensible words :

(*a*) V ———, CHO ———, VO ———, N ———

(*b*) Profess (.....) phan

(*c*) Brace (.....) ter.

142. Name a single letter which when prefixed to each of the following words forms a new word.

— ind, — ite, — ingle, — ill

143. Name a single letter which can be taken out of all the words in each group to form new words :

BREAD, DROVE, SHORT, BROUGHT

144. Name a single three letter word that will suffix the following words :

—close, —miss, —able, —count.

145. Using only once each letter in the word DEPARTURE, form new words which are similar in meaning to the following :
(*a*) scarce (*b*) evaluate
(*c*) walk (*d*) unmixed

146. This work is marvelous; it ..... an award.
(*a*) permits (*b*) warrants
(*c*) requires

147. The door was closed to ..... the loud noise.
(*a*) shut off (*b*) mute
(*c*) conceal

148. This meaning was ..... during the discussion.
(*a*) accurate (*b*) obvious
(*c*) implicit

149. For the sake of convenience our ..... year contains 365 days.
(*a*) typical (*b*) ordinary
(*c*) popular (*d*) common

ANSWERS

1. (*a*)	2. (*c*)	3. (*c*)	4. (*e*)	5. (*d*)	6. (*a*)
7. (*b*)	8. (*e*)	9. (*c*)	10. (*e*)	11. (*d*)	12. (*a*)
13. (*c*)	14. (*d*)	15. (*c*)	16. (*b*)	17. (*c*)	18. (*a*)
19. (*e*)	20. (*e*)	21. (*a*)	22. (*d*)	23. (*c*)	24. (*d*)
25. (*a*)	26. (*a*)	27. (*d*)	28. (*e*)	29. (*c*)	30. (*d*)
31. (*e*)	32. (*c*)	33. (*a*)	34. (*a*)	35. (*c*)	36. (*d*)
37. (*a*)	38. (*a*)	39. (*b*)	40. (*c*)	41. (*b*)	42. (*c*)
43. (*a*)	44. (*d*)	45. (*d*)	46. (*b*)	47. (*c*)	48. (*d*)
49. (*a*)	50. (*a*)	51. (*a*)	52. (*a*)	53. (*d*)	54. (*d*)
55. (*d*)	56. (*d*)	57. (*d*)	58. (*a*)	59. (*d*)	60. (*e*)
61. (*d*)	62. (*a*)	63. (*b*)	64. (*d*)	65. (*e*)	66. (*b*)
67. (*b*)	68. (*a*)	69. (*d*)	70. (*c*)	71. (*b*)	72. (*e*)
73. (*a*)	74. (*d*)	75. (*a*)	76. (*d*)	77. (*a*)	78. (*d*)
79. (*d*)	80 (*d*)	81. (*d*)	82. (*d*)	83. (*c*)	84. (*c*)
85. (*a*)	86. (*d*)	87. (*c*)	88. (*c*)	89. (*a*)	90. (*d*)
91. (*a*)	92. (*c*)	93. (*d*)	94. (*c*)	95. (*d*)	96. (*d*)
97. (*d*)	98. (*a*)	99. (*d*)	100. (*b*)	101. (*b*)	102. (*d*)
103. (*d*)	104. (*c*)	105. (*c*)	106. (*c*)	107. (*c*)	108. (*b*)

109. (*d*) 110. (*d*) 111. (*d*) 112. (*d*) 113. (*d*) 114. (*b*)
115. (*c*) 116. (*c*) 117. (*b*) 118. (*c*) 119. (*a*) 120. (*a*)
121. (*d*) 122. (*c*) 123 (*d*) 124. (*c*) 125. (*d*) 126. (*d*)
127. (*b*) 128. (*b*) 129. (*b*) 130. (*d*) 131. (*c*) 132. (*c*)
133. (*c*) 134. [(*a*) (*e*)(*d*)(*b*)(*c*)] 135. (*c*) 136. (*c*)
137. (*c*) 138. (*d*) 139. (*b*) 140. (*c*)
141. [(*a*) ICE. (*b*) OR (*c*) LET 142. (*m*) 143. ('R')
144. (DIS) 145. [(*a*) Rare (*b*) Rate (*c*) Tread (*d*) Pure]
146. (*b*) 147. (*b*) 148. (*c*) 149. (*b*).

CHAPTER 15

Numerical Aptitude Tests

Numerical aptitude tests are designed to discover whether the candidate has the basic talent for solving simple problems in numerals, arithmetic, geometry, algebra, business calculations, etc. There tests are very popular examinations leading to careers in banking, private business houses, public sector undertakings, and the like.

We give in this chapter a variety of multipurpose tests related to above careers.

Each of the problems below is followed by five alternatives (*a*) through (*e*). Solve each problem and then choose the correct answer. Note that diagrams are not necessarily drawn to scale. Scratch-work may be done on available space on the pages of this test.

1. In the figure below, four squares have been placed side by side to form a rectangle of perimeter 140. What is the area of each square ?

(*a*) 400 (*b*) 360
(*c*) 300 (*d*) 256
(*e*) 196

2. A man buys a television set which lists for Rs. 2000 at a 10% discount. He gets an additional 2% discount for paying cash. What does he actually pay for the set ?
(*a*) Rs. 1760 (*b*) Rs. 1700
(*c*) Rs. 1800 (*d*) Rs. 1764.00
(*e*) Rs. 1720.80

3. If $y = 7 = 12$, then $= 7 = 12$, then $y + 19 =$

(*a*) 19 (*b*) 28

(*c*) 38 (*d*) 42

(*e*) 50.

4. $11.5 \times 0.003 =$

(*a*) 0.345 (*b*) 0.0345

(*c*) 0.00345 (*d*) 0.000345

(*e*) 0.0000345

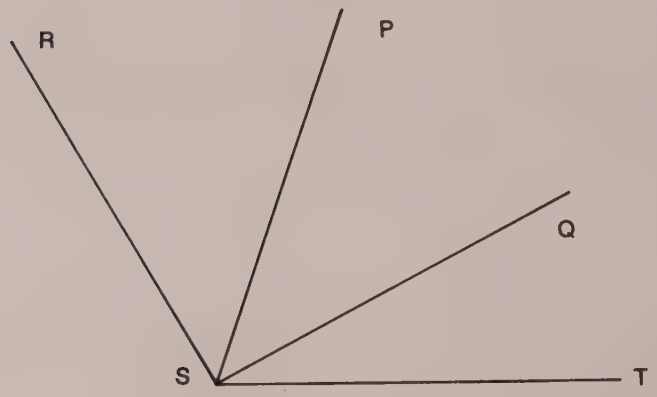
5. Twelve students in a class average 70% in a certain test. Eighteen others average 80%. What is the overall average percentage of the thirty students ?

(*a*) $73\frac{3}{4}$ (*b*) $74\frac{3}{8}$

(*c*) $75\frac{1}{4}$ (*d*) 76

(*e*) $77\frac{1}{8}$

6. In the figure given below, angel RST = 120; angle RSQ = 92 and angle PST = 70. How many degrees is angle PSQ ?

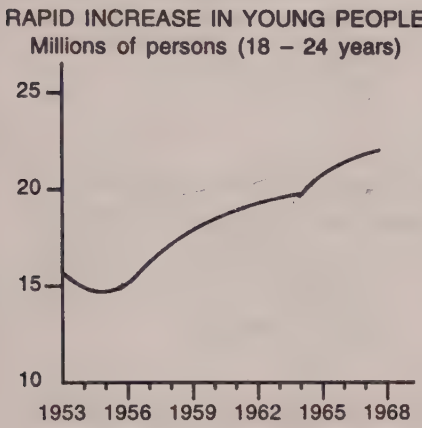


(a) 40 (b) 42

(c) 45 (d) 48

(e) 51

Directions : *The following graphs are to be used for Question 7-12.*



7. During which time period was there the sharpest increase in marriages ?
   (a) 1955-1956 (b) 1957-1958
   (c) 1961-1962 (d) 1964-1965
   (e) 1967-1968

8. What was the average number of births per year from 1964 through 1967 ?
   (a) 3.7 million (b) 3.55 million
   (c) 4.0 million (d) 3.8 million
   (e) 3.4 million

9. What is the ratio of the number of young people to the number of births for the year 1954 ?
   (*a*) 2.83 (*b*) 4.1
   (*c*) 3.75 (*d*) 8.0
   (*e*) 2.4

10. If the rate of increase of marriages remained constant from 1967 to 1970, approximately how many marriages would there be in 1970 ?
   (*a*) 1.8 million (*b*) 2.0 million
   (*c*) 2.2 million (*d*) 2.7 million
   (*e*) 2.9 million

11. How many marriages occurred as the final approximate total in three different years ?
   (*a*) 1.7 million (*b*) 1.3 million
   (*c*) 1.55 million (*d*) 1.45 million
   (*e*) 1.9 million

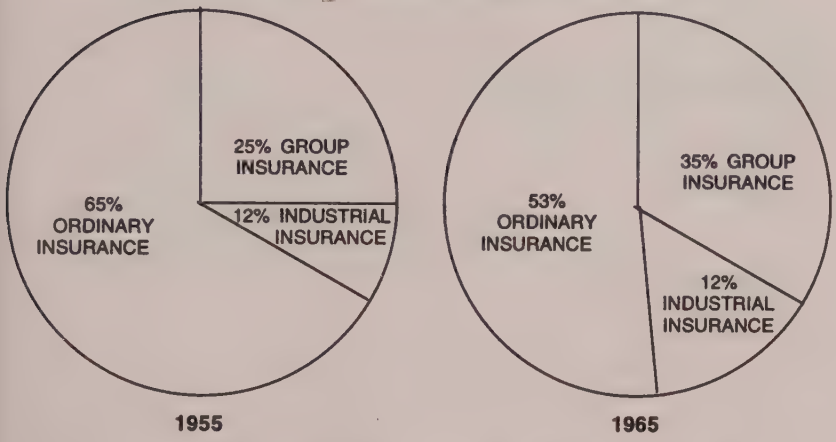
12. If the government collected Rs. 200 for each marriage, Rs. 100 for each birth, and Rs. 20 from each young person, how much did it collect in 1966 ?
   (*a*) Rs. 260 million (*b*) Rs. 480 million
   (*c*) Rs. 820 million (*d*) Rs. 1160 million
   (*e*) Rs. 1500 million

13. Jim goes to the post office with Rs. 10.00 and spends it all on 50 paise and 20 paise stamps. If he buys some of both, what is the greatest number of 5 paise stamps he could buy ?
   (*a*) 10 (*b*) 12
   (*c*) 14 (*d*) 16
   (*e*) 18

14. A ship leaves a port and sails 6 miles west. It then sails 6 miles south, and then 6 miles west again. Approximately how many miles is the ship then from the port ?
   (*a*) 9 (*b*) 11
   (*c*) 13 (*d*) 15
   (*e*) 17

QUESTIONS 15-19

Insurance Death Benefits Payments in the U.S.



15. In the 1955 pie diagram above, how many degrees are in the central angle of the sector for Industrial Insurance ?

(*a*) 28 (*b*) 30
(*c*) 32 (*d*) 34
(*e*) 36

16. If 50 million dollars was paid out in 1965 for insurance death benefits, how many millions were from Group Insurance ? (See diagram on page 215).

(*a*) 13 (*b*) 14.5
(*c*) 16 (*d*) 17.5
(*e*) 19

17. In 1955, what was the ratio of the payments from Group Insurance to those of Industrial Insurance ?

(*a*) 30 (*b*) 35
(*c*) 40 (*d*) 45
(*e*) 50

18. What was the approximate percentage increase in Group Insurance payments from 1955 to 1965, if the total insurance payments were the same in both years ?

(*a*) 30 (*b*) 35
(*c*) 40 (*d*) 45
(*e*) 50

19. If 50 million dollars was paid out for insurance death benefits in 1965, how many millions were from Industrial Insurance ?

(*a*) 5 (*b*) 6 (*c*) 7
(*d*) 8 (*e*) 10

20. How much is $\frac{1}{4}$ of $\frac{x}{4}$?

(*a*) $4x$ (*b*) x
(*c*) $\frac{1}{x}$ (*d*) $\frac{x}{16}$

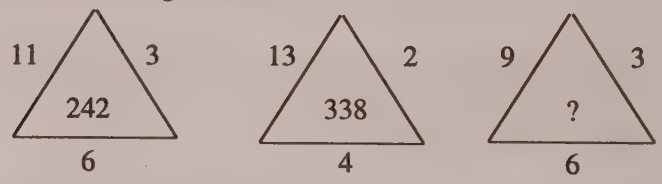
21. What is $\frac{1}{5}$ of $\frac{x}{5}$?

(a) $25x$ (*b*) $\frac{1}{25}$
(*c*) $\frac{1}{x}$ (*d*) x

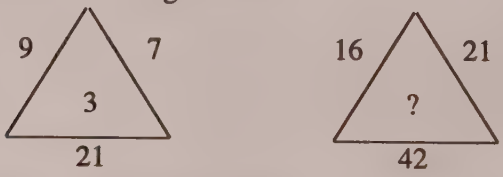
22. Find the odd man out.

3 6 9 12 15 17

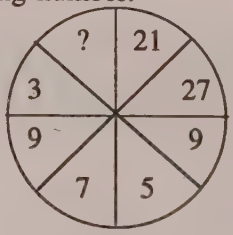
23. Insert the missing number.



24. Insert the missing number.

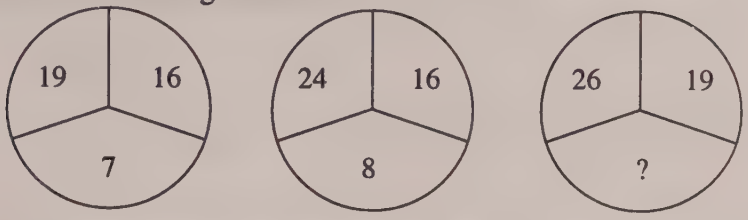


25. Insert the missing number.



26. If 6 + 4 = 21, 7 + 3 = 18.Then 5 + 4 = ?

27. Insert the missing number.



28. Write the middle figure between 83 and 98.

Insert the missing figures :

29.
7	8	1
3	7	4
1	—	8

30. 16 23 20 27 24 31 ?

31. 3 7 3 9 3 11 3 ?

32. 4 7 9 11 14 15 19 ?

Each of the problems below is followed by five alternatives (a) through (e). Solve each problem and then choose the correct answer.

33. A catalogue advertises successive discounts of 15% and 10% on tape recorder ?

(*a*) Rs. 140.50 (*b*) Rs. 152.00
(*c*) Rs. 150 (*d*) Rs. 160
(*e*) Rs. 153

34. Which of the following fractions is more than $\frac{1}{2}$?

(*a*) $\frac{31}{60}$ (*b*) $\frac{32}{65}$ (*c*) $\frac{7}{15}$
(*d*) $\frac{30}{61}$ (*e*) $\frac{14}{29}$

35. If 9 members of a committee of 12 are, women, what percent of all the members are men ?

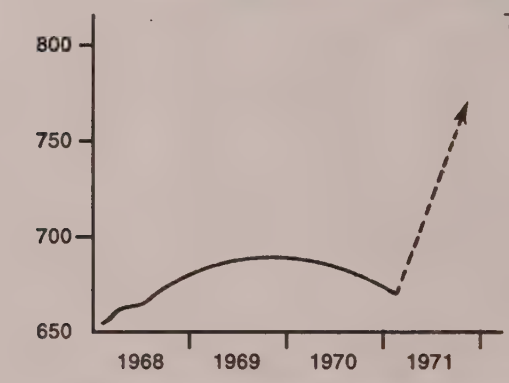
(*a*) 30% (*b*) 75% (*c*) 60%
(*d*) 40% (*e*) 25%

36. If melons range in price from 60 ps. to 75 ps per melon, what is the greatest number of melons that can be bought for Rs. 60 ?

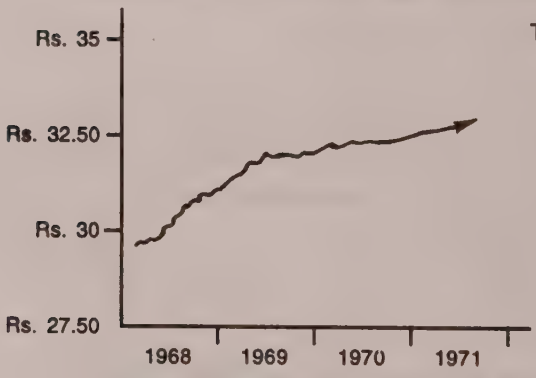
(*a*) 14 (*b*) 8 (*c*) 6
(*d*) 10 (*e*) 12

QUESTIONS 37-42

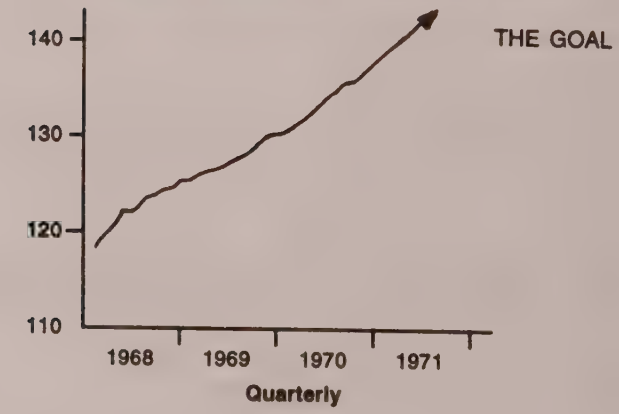
Gross National Product in million of Rs. (1966 prices) seasonally adjusted annual ratas.



Wages, average hourly earnings, manufacturing



Consumer Price Index 1957-59 = (all items)



37. Which of the following is not a true statement according to the graphs above ?
    (*a*) The greatest increase in the Consumer Price Index continue toward the end of 1969.
    (*b*) It is expected that the Consumer Price Index will occurred to increase in 1971 at approximately the same rate as 1968-70.
    (*c*) It is expected that wages will increase at a slower rate in 1971 than they did in 1969-70.
    (*d*) In 1969-70, the GNP actually decreased slightly for a while.
    (*e*) It is expected that wages will continue to increase in 1971 at approximately the same rate as in 1969-70.

38. Which of the following is not a true statement according to the graphs above ?
    (*a*) The goal is to slow down the rate of growth of wages.
    (*b*) The goal is to slow down the rate of growth of the GNP.
    (*c*) The GNP has increased slowly from 1968-70.
    (*d*) The increase in wages has kept pace with the Consumer Price Index from 1968-70.
    (*e*) The goal is to increase the rate of growth of the GNP.

39. What was the approximate ratio of the percentage increase in wages to the percentage increase in Consumer Price Index from the start of 1968 to the end of the third quarter of 1970 ?
    (*a*) 4 : 3 (*b*) 3 : 2
    (*c*) 1 : 2 (*d*) 2 : 1
    (*e*) 1 : 1

40. What was the approximate percentage increase in the Consumer Price index from the start of 1968 to the end of the third quarter of 1970 ?
    (*a*) 24% (*b*) 9%
    (*c*) 20% (*d*) 16%
    (*e*) 12%

41. What was the approximate percentage increase in hourly wages from the start of 1968 to the end of the third quarter of 1970 ?
    (*a*) 17% (*b*) 28%
    (*c*) 10% (*d*) 32%
    (*e*) 12%

42. What was the approximate percentage increase in Gross National Product (GNP) from the start of 1968 to the end of the third quarter of 1970 ?
(*a*) 4.2% (*b*) 2.2%
(*c*) 6.2% (*d*) 3%
(*e*) 5%

43. A boy has an average of 75% in one term. What must be his average in five courses the next term to raise his combined average to 80%
(*a*) 86% (*b*) 87%
(*c*) 82% (*d*) 85%
(*e*) 84%

44. The ice compartment in a refrigerator is 10 inches deep, 5 inches high, and 4 inches wide. How many ice cubes will it hold if each cube is 2 inches on an edge ?
(*a*) 25 (*b*) 16
(*c*) 20 (*d*) 18
(*e*) 22

45. What fraction is 50 paise of Rs. 100 ?
(*a*) 1/200 (*b*) 1/200
(*c*) 200

46. To a certain number 8 is added. The sum is multiplied by 3, then the product is divided by 2 and 7 is subtracted from the quotient. The remainder elf is 50. The number is :
(*a*) 30 (*b*) 40
(*c*) 50 (*d*) 60

47. The greatest number of five digits beginning with 5 and ending with 7 is :
(*a*) 53397 (*b*) 57897
(*c*) 58987 (*d*) 59997

48. The average price of 3 books is Rs. 18. Which of the following could be with price of one of the books ?
(*a*) 57 (*b*) 56
(*c*) 55 (*d*) 52

49. There are a number of birds sitting on a branch of a tree. A hunter fired with his gun, only two birds fell down. How many were left on the tree ?

(*a*) 10 (*b*) 18
(*c*) 21 (*d*) 0

50. A driver of a car while driving found his brakes ineffective.
    (*a*) He should drive fast to reach his destination quickly.
    (*b*) he should drive slow to avoid any accident.
    (*c*) He should stop the car immediately.

51. Vimal was sitting in a row with many other boys. On his right side 15 persons were sitting and on his left 14 persons were sitting. How many boys were sitting there ?
    (*a*) 29 (*b*) 21
    (*c*) 28 (*d*) 30

52. In a competitive test the candidates were asked to answer only six questions out of ten given in the question paper. Suresh felt the questions were easy and quickly answered all the ten questions.
    (*a*) The examiner will be happy seeing his knowledge.
    (*b*) He will get more marks.
    (*c*) He should have answered only six question.

53. A speeding bus with passengers saw suddenly a child on the road just before the sign No Parking : however the driver stopped the bus.
    (*a*) He has done wrong by stopping the bus before no parking sign.
    (*b*) He should suddenly have turned the bus to the other side.
    (*c*) He is right.

54. $5^3 - 3^3 + 12 = ?$
    (*a*) 10 (*b*) 16
    (*c*) 12 (*d*) 20

55. $(50 + 10) - 6 \times 2 = ?$
    (*a*) 5 (*b*) 15
    (*c*) 48 (*d*) 40

56. Find out which of the two numbers given below are exactly like each other.
    (*a*) 313100211 (*b*) 313102011
    (*c*) 313100211 (*d*) 3131112011

57. Insert the missing mathematical signs in the following problems:

8	2	2	= 2
15	5	4	= 16
8	7	8	= 8

58. Insert the missing figure :

8	0	7
4	8	3
2	5	8
9	3	?

59. A cyclist covers half as much distance again as a tonga driver and the tonga driver half as much again as a man on foot. If a man can walk a distance of 3 miles in an hour, how long will it take the cyclist to cover a distance of 27 miles ?

(*a*) 3 hrs. (*b*) $1\frac{1}{2}$ hrs.

(*c*) 4 hrs. (*d*) 2 hrs.

60. Assign correct mathematical signs and find the missing figure.

If	8	2	5	= 20
	9	3	6	= 18
Then,	6	3	9	= ?

61. Insert correct mathematical signs in the following problems :

5	1	6	= 94
7	1	7	= 11

62. A sugar cube carton is 8 inches long, 4 inches wide and 5 inches high. How many sugar cubes will it hold if each cube has an edge of 2 inches ?

(*a*) 12 (*b*) 9

(*c*) 8 (*d*) 16

63. A student secures an average of 78 per cent in four subjects. How many marks must he get in his fifth subject if he is to get average 80 per cent in all the five subjects ?

(*a*) 84 (*b*) 89

(*c*) 88 (*d*) 86

64. What is the smallest positive number which gives a remainder of 5, when divided by any of 7, 8 or 9 ?

(*a*) 248 (*b*) 537

(*c*) 509 (*d*) 450

65. Continue the series
(*a*) 10, 14, 9, 15, 8, 16, ———
(*b*) 15, 6, 13, 6, 11, 6, ———

66. Inserting the missing number
7, 9, 18, 24, 51, ———, 1150, 204

67. Insert the missing number

4	7	3
32	69	51
20	48	—

68. Insert the missing number
7 15 32 ——— 138 281

69. Find the odd man out
256, 400, 64, 45, 625

70. Insert the missing number
8, 17, 33, 67, 133 ———

71. Insert the missing number

413	(2420)	70
19	( )	16

72. Insert the mathematical signs between the figures
(*a*) (18 —— 9) (211 —— 107) = 208
(*b*) (310 —— 15) —— 3 = 885

73. Insert the missing numbers
(*a*) 11, ——, 17, 18, 23, 24, ——
(*b*) 1, 8, 27, 64, 125, 216 ——

74. Fill in plus (=) or minus (–) signs between these numbers so that they give the correct answers
(*a*) 2 —— $\frac{1}{2}$ —— $1\frac{1}{2}$ —— 0 —— 5 = 5
(*b*) 10 —— 13 —— 20 —— 8 —— 4 = 6
(*c*) 14 —— 7 —— 16 —— 19 —— 23 = 27

75. Write the two missing figures in the following series
A 5, C 7, F 10, J 14, ——

76. Insert the missing number
0, 3, 12, 27 ———

77. Insert the next figure in the series
$2\frac{3}{4}$, 3, $3\frac{1}{2}$, $4\frac{1}{3}$

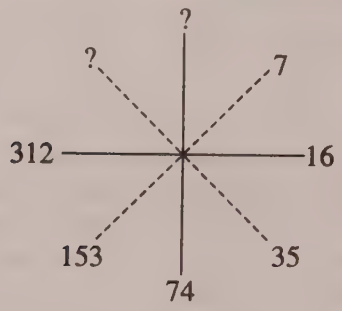
78. Insert the missing number

8, 10, 16, 34, ——

79. Find the odd man out

102, 34, 51, 59, 119

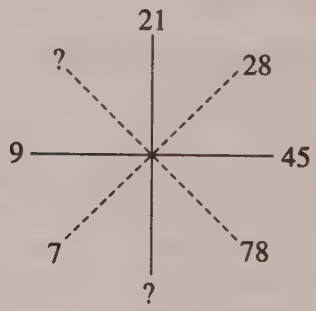
80. Insert the missing numbers



81. Find the odd man out

64, 49, 625, 576, 121, 52

82. Insert the missing numbers



Directions : *Questions 83 and 86 are based on the following 4 assumptions :*

(1) A 20 m high pole on the side of the 50 m wide Saraswati canal faces a 10 m high pole on the opposite bank.

(2) There is a bird sitting on each of the two poles.

(3) A fish appears on the surface of the water. The straight line passing through the pole's base and the fish is at right angles to the banks of the canal.

(4) Assume the speed of both wind and water current is zero. Also assume the height of each pole as given in (1) is above ground level.

83. If the bird on the higher pole covers 41 m in a second, how much distance will the bird on the other pole cover approximately, in the same time ?
(*a*) 32.5 m (*b*) 33.5 m
(*c*) 34.5 m (*d*) 31.4 m

84. If the fish were equidistant from the two banks and the birds leave the respective poles simultaneously and reach the fish at the same time, which one of the following statements must be true ?
(*a*) The two birds fly an equal distance before they get to the fish
(*b*) The speed of bird on the 10 m high pole is less than that of the bird on the 20 m high pole
(*c*) The two birds have the same speed
(*d*) The speed of the bird on the 20 m high pole is less than that of the bird on toe 10 m high pole

85. Approximately how much distance does each bird fly before it gets to the fish ?
(*a*) 21 m (*b*) 30 m
(*c*) 25 m (*d*) cannot be deduced

86. How far must the fish be from the higher pole, if the two birds flying at identical speeds leave their respective perches simultaneously and reach the fish at the same time ?
(*a*) 28 m (*b*) 20 m
(*c*) 22 m (*d*) 25 m

87. The minimum value of the expression $x^2 + 10x + 7$ is
(*a*) 7 (*b*) –18
(*c*) Zero (*d*) None of the above

88. The expression $x^2 - 3x + 5$ has a minimum value for x equal to
(*a*) 3.2 (*b*) Zero
(*c*) 1.5 (*d*) 2.4

89. After a 22 per cent deduction, A's net salary is Rs. 1,600. A's gross salary is nearly
(*a*) Rs. 2,000 (*b*) Rs. 2,025
(*c*) Rs. 2,051 (*d*) Rs. 2,078

90. Sohan purchased a horse for Rs. 2,000 and sold it to. Mohan at a loss of 10 per cent Mohan sold it to Sham at a loss of 10 per cent while Sham sold it to Gopi at a gain of 10 per cent. The amount Gopi paid for it would be Rs. .....

(*a*) 1,980 (*b*) 1,890

(*c*) 1,782 (*d*) 1,872

91. Rakesh bought a TV priced at Rs. 2,000. He was given two successive discounts of 10 and 5 per cent. If he hand to pay 10 per cent sales tax, the net amount he paid was

(*a*) Rs. 2,633.40 (*b*) Rs. 2,592

(*c*) Rs. 2,660 (*d*) Rs. 2,612.60

92. The value of $64 \times 128 \times 512 \times 2^{-3}$ is

(*a*) 2^{20} (*b*) 2^{21}

(*c*) 2^{19} (*d*) 2^{17}

93. The sum of the whole numbers from 1 to 50 is

(*a*) 1,432 (*b*) 670

(*c*) 1,275 (*d*) 1,435

94. The value of 91^2 is

(*a*) 8,431 (*b*) 8,281

(*c*) 8,241 (*d*) 8,181

95. The geometric mean $a^{2n} \times b^{2n}$ is

(*a*) $\frac{a^{2n}b^{2n}}{2}$ (*b*) $a^n b^n$

(*c*) $\frac{a^{2n}+b^{2n}}{2}$ (*d*) $(ab)^{2n}$

96. The value of $\left[\left(\frac{2}{7}\right)\right]^{-2}$ is

(*a*) $-\frac{2}{7}$ (*b*) $\left(\frac{2}{7}\right)^5$

(*c*) $\left(\frac{2}{7}\right)^-$ (*d*) $\left(\frac{2}{7}\right)^6$

97. A student loses a mark for every wrong answer scores 2 marks for every correct answer. If he and all the 60 questions in an exam and scores 39 man how many of them were correct ?
(*a*) 31 (*b*) 37
(*c*) 33 (*d*) 27

98. The next number in the sequence 2, 5, 28, 17, 126 is
(*a*) 217 (*b*) 35
(*c*) 37 (*d*) 43

99. The missing term in the sequence 2, 7, 22, 67, — 607 is
(*a*) 312 (*b*) 186
(*c*) 202 (*d*) 248

100. The expansion of $(x + 3)^{19}$ will contain —— terms.
(*a*) 19 (*b*) 21
(*c*) 20 (*d*) 18

101. $2^3 2^{-6} + 2^{-3} 2^6$ is closest to
(*a*) 62 (*b*) 1
(*c*) 8 (*d*) 34

102. The length of a rectangle is increased by 2 cm and its width is decreased by 2 cm. The length of the diagonal of the rectangle (length > width).
(*a*) will decrease (*b*) will remain unchanged
(*c*) will increase
(*d*) can increase or decrease depending upon the initial values of length and width.

103. The width of a rectangle is 2 cm less than its length and its length and its perimeter is 12 cm. The rectangle's area is
(*a*) 12 cm^2 (*b*) 24 cm^2
(*c*) 8 cm^2 (*d*) 6 vm^2

104. Two wires of radii 0.1 cm and 0.2 cm are of lengths 20 cm and 10 cm respectively. Their volumes are in the ratio.
(*a*) 1 : 4 (*b*) 1 : 2
(*c*) 1 : 1 (*d*) 2 : 1

105. The value of $\sqrt{117} \times 3\sqrt{13}$ is
(*a*) $\frac{117}{\sqrt{3}}$ (*b*) 351
(*c*) 117 (*d*) $\sqrt{3}$

106. How many three-figure numbers can be formed from the digits 2, 6, 3, 5, 1 ?

(*a*) 44 (*b*) 60

(*c*) 24 (*d*) 68

107. The value of $\frac{1}{5+\sqrt{3}}+\frac{1}{5-\sqrt{3}}$ is

(*a*) $\frac{7}{11}$ (*b*) 0.5

(*c*) 0.62 (*d*) $\frac{5}{11}$

108. A 10-litre mixture of milk and water contains 30 per cent water. Two litres of this mixture is taken away. How many litres of water should now be added so that the amount of milk in the mixture is double that of water.

(*a*) 1.4 (*b*) 0.8

(*c*) 0.4 (*d*) 0.7

109. A man sells a radio and a mixer for Rs. 350 each. On one he gains 10 per cent and on the other loses 10 per cent. Thus on the whole, he

(*a*) gains nearly 0.1 per cent (*b*) neither gains nor loses

(*c*) loses nearly 0.1 per cent (*d*) gains nearly 1 per cent

110. The sum of two numbers is 8. If the numbers are in the ratio 3 : 1, their product is

(*a*) 15 (*b*) 18

(*c*) 12 (*d*) 10

111. The value of $\frac{5^{3^{3^3}}}{5^{3+3+3}}$ is

(*a*) 5^3 (*b*) 1

(*c*) 5^{18} (*d*) 5

112. A tap fills a tank in eight hours. Two taps at bottom of the tank can empty it in 15 and 20 hours respectively. If all the three taps are opened simultaneously, the tank will be full in ..... hours.

(*a*) 60 (*b*) 120

(*c*) 27 (*d*) The tank will never fill

113. Three successive discount of 10 per cent are equivalent to a single discount of ..... per cent.
(*a*) 33.2 (*b*) 30
(*c*) 27.1 (*d*) 28.4

114. The value of $\frac{5293\times5293-3633\times3633}{8926}$ is
(*a*) 1625 (*b*) 2525
(*c*) 1460 (*d*) 1660

115. a dealer marks his goods 20 per cent above his cost price. If he gives a discount of 10 per cent on his marked price, the profit he earns on his good is ..... per cent.
(*a*) 12 (*b*) 7.5
(*c*) 8 (*d*) 10

116. A B and C can do a piece of work in 15 days. A and B can do the same work in 24 days. C alone will do the work in ... days.
(*a*) 48 (*b*) 36
(*c*) 39 (*d*) 40

117. A number is a always divisible by 8 if
(*a*) It ends in 8 (*b*) It is even
(*c*) Its last two digits as a number are divisible by 8
(*d*) It last three digits as a number are divisible by 8

118. The value of $\frac{3.8\times3.8\times3.8+1.2\times1.2\times1.2}{3.8\times3.8+1.44-3.8\times1.2}$ is
(*a*) 6.2 (*b*) 3.4
(*c*) 5.0 (*d*) 5.8

119. A sphere of radius 10 cm is melted to form a cube of the same material. The side of the cube is nearly.
(*a*) 19 cm (*b*) 16 cm
(*c*) 10 cm (*d*) 10 cm

120. A man buys a scooter for Rs. 7,000 and sels it for Rs. 11,500. The percentage profit is nearly ..... per cent.
(*a*) 70.6 (*b*) 54
(*c*) 58 (*d*) 64.3

121. If Rs. 1,200 yields Rs. 594 as interest for six years at simple interest rate would be nearly ..... per cent.
(*a*) 7.25 (*b*) 8.25
(*c*) 9 (*d*) 6

122. Rs. 2,000 at 5 per cent compound interest after four years will become nearly
(*a*) Rs. 2370 (*b*) Rs. 2430
(*c*) Rs. 2200 (*d*) Rs. 2500

123. ..... becomes Rs. 2,500 in four years at $6\frac{1}{4}$ per cent, simple interest
(*a*) 1800 (*b*) 2000
(*c*) 1500 (*d*) 2200

124. The sum of five successive number is 190. The product of the first and the last number is
(*a*) 484 (*b*) 246
(*c*) 282 (*d*) 396

125. A can do a piece of work in 12 days, alongwith B, can do the work in eight days. B alone can finish the work in ..... days.
(*a*) 18 (*b*) 24
(*c*) 10 (*d*) 15

126. If $\frac{5}{7}$ of a number is 1025, $\frac{3}{7}$ of the same number
(*a*) 735 (*b*) 410
(*c*) 615 (*d*) 645

ANSWERS

1. (*e*)	2. (*d*)	3. (*c*)	4. (*b*)	5. (*d*)	6. (*b*)
7. (*e*)	8. (*a*)	9. (*c*)	10. (*c*)	11. (*c*)	12. (*d*)
13. (*e*)	14. (*c*)	15. (*c*)	16. (*d*)	17. (*a*)	18. (*c*)
19. (*b*)	20. (*d*)	21. (*c*)	22. (17)	23. (162)	24. (2)
25. (15)	26. (17)	27. (9)	28. (53)	29. (9)	30. (28)
31. (19)	32. (19)	33. (*e*)	34. (*a*)	35. (*e*)	36. (*d*)
37. (*e*)	38. (*b*)	39. (*e*)	40. (*d*)	41. (*a*)	42. (*b*)
43. (*e*)	44. (*c*)	45. (*b*)	46. (*a*)	47. (*d*)	48. (*d*)
49. (*d*)	50. (*c*)	51. (*d*)	52. (*c*)	53. (*c*)	54. (*a*)
55. (*c*)	56. (*c*)	57. (+, –), (+, –), (–, +)58.			(3)
59. (*c*)	60. (18)	61. (–, ×) (–, +)		62. (d)	63. (*c*)
64. (*c*)	65. (*a*) 7, 7 (*b*) 9, 6		66. (69)	67. (42)	68. (67)
69. (45)	70. (267)	71. (180)			

72. (*a*) (18 ÷ 9)211 – 107 = 208 (*b*) 310 – 15) × = 885
73. (*a*) 12, 29 and (*b*) 343, 512

74. (*a*) $2 - \frac{1}{2} - 1\frac{1}{4} + 0 + 5 = 5$
(*b*) $10 + 13 - 21 + 8 - 4 = 6$
(*c*) $14 - 7 + 16 - 19 + 23 = 27$

75. (019) 76. (48) 77. $(5\frac{2}{3})$ 78. (88) 79. (59)
80. 631, 1270 81. (52) 82. (13) 83. (*c*) 84. (*b*)
85. (*b*) 86. (*c*) 87. (*b*) 88. (*c*) 89. (*c*) 90. (*c*)
91. (*c*) 92. (*c*) 93. (*c*) 94. (*b*) 95. (*b*) 96. (*c*)
97. (*c*) 98. (*c*) 99. (*c*) 100. (*c*) 101. (*c*) 102. (*c*)
103. (*c*) 104. (*c*) 105. (*c*) 106. (*b*) 107. (*d*) 108. (*c*)
109. (*c*) 110. (*c*) 111. (*c*) 112. (*b*) 113. (*c*) 114. (*d*)
115. (*c*) 116. (*c*) 117. (*d*) 118. (*c*) 119. (*b*) 120. (*d*)
121. (*b*) 122. (*b*) 123 (*b*) 124. (*d*) 125. (*b*) 126. (*c*)

NOTES

GOODWILL'S MOST USEFUL BOOKS

BOOKS ON IQ

- G-16 Test Your IQ
- G-22 Check Your IQ
- G-23 How to Improve Your IQ
- G-24 IQ for All
- G-27 Better Your IQ
- G-94 Take the IQ Challenge
- G-200 Challenging IQ Tests

BOOKS ON QUIZ

- G-35 G.K. Quiz (Small Size)
- G-51 World Facts at a Glance
- G-52 Do you Know
- G-54 India Quiz
- G-56 1250 Questions and Answers Quiz Book
- G-57 Super Quiz Book
- G-62 Sports Quiz
- G-68 Science Quiz
- G-74 Readymade Quizzes (Foreign Reprint)
- G-75 Standard Quiz Book (Foreign Reprint)
- G-123 500 Amazing Questions & Answers
- G-133 G.K. Quiz (Big Size)
- G-147 Nearly Impossible Brain Bafflers (Foreign Reprint)
- G-201 Mental Magic (Foreign Reprint)

ISBN 81-7245-020-6

9 788172 450206

W9-CIO-811

GOODWILL PUBLISHING HOUSE
B-3, Rattan Jyoti, 18 Rajendra Place,
NEW DELHI - 110 008 (INDIA)
TEL.: 5750801, 5755519, 5820556 FAX : 91-11-576

RS 1

COVER DESIGN: KAM STUDIO